JP 5-127402(A)

* NOTICES *

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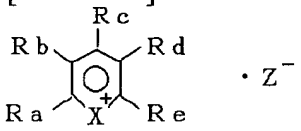
DETAILED DESCRIPTION

[Detailed Description of the Invention]
[0001]
[Industrial Application] This invention relates to the electrophotography photo conductor which was especially excellent in electrification stability at the time of prolonged repeat use with respect to an electrophotography photo conductor.
[0002]
[Description of the Prior Art] Although inorganic materials, such as Se, CdS, and ZnO, have been used for the electrophotography photo conductor until now, the electrophotography photo conductor using the organic material in which the property which is equal to it in recent years is shown develops, and has come to be put in practical use. Degradation of an ingredient cannot be escaped although cheapness, mass production method, etc. are mentioned as this advantage, and it is the organic substance therefore. On the other hand, although an under-coating layer, a protective layer, etc. are prepared regardless of an inorganic system and an organic system ingredient, since these many are partially prepared with the organic substance, producing degradation of an ingredient similarly is not avoided. Although many are not known about the degradation device of such an ingredient, what is depended on an optical exposure, the thing to depend on passage of an electron, the thing to depend on reactant gas (NOx, SOx, O3 grade) are considered. Adding a specific antioxidant is known for degradation of such an ingredient and the purpose which especially prevents oxidation. For example, it is indicated by JP,57-122444,A, JP,61-156052,A, JP,62-265666,A, JP,63-18356,A, JP,64-44451,A, etc.
[0003] Both the electrification nature electrophotography photo conductor that used as the

photoconduction layer the constituent which, on the other hand, added the eutectic complex and need ****** triphenylmethane color system sensitizer which consist of a pyrylium system color and an electric insulation polymer is well-known (for example, JP,46-22516,B, a 46-22519 official report, a 51-1129 official report, JP,47-10785,A, a 51-88226 official report, a 51-93324 official report, a 53-87227 official report, etc.). Since these photo conductors also consisted of organic materials, to the degradation division oxidation degradation of an ingredient, it is unstable and amelioration much more than this point was desired.
[0004]
[Problem(s) to be Solved by the Invention] The first purpose of this invention is to offer both the electrification nature electrophotography photo conductor that improved the fall of the electrification nature produced by repeat use. The second purpose is at this invention to offer both the electrification nature electrophotography photo conductor that was excellent in the resistance to environment (reactant gas-proof nature). The third purpose of this invention is to offer both the electrification nature electrophotography photo conductor that prevented generating of an abnormality image.
[0005]
[Means for Solving the Problem] According to this invention, in the electrophotography photo conductor with which the sensitization layer which uses a pyrylium system color, an electric insulation polymer, and the electron hole transportability matter as a principal component was prepared on the conductive base, the electrophotography photo conductor characterized by making it come to contain an antioxidant in this photo conductor is offered.
[0006] Generally, although this kind of eutectic complex photo conductor shows electrophotography photosensitivity respectively to forward electrification and negative electrification, it produces the fall of the electrification nature mentioned above according [like] to use. Moreover, a fall and abnormality image of electrification nature may be produced by environmental-capability division reactivity gas (O3, NOx, SOx, etc.). Although it is not clear about this cause, it is a phenomenon peculiar to an organic material system, and it is surmised that it is probably accompanied by degradation of an ingredient. As a result of examining this point wholeheartedly, this invention persons find out that many phenomena mentioned above by making an antioxidant contain in the sensitization layer which has an eutectic complex are improved remarkably, and came to complete this invention.
[0007] Hereafter, along with a drawing, this invention is explained further. It is the sectional view showing the example of a configuration of the electrophotography photo conductor of this invention, the eutectic complex sensitization layer 15 prepares on the conductive base 11, and drawing 1 is **********. Drawing 2 is another example of a configuration of this invention, and forms the undercoating layer 14 between a conductive base and an eutectic complex sensitization layer. Drawing 3 and drawing 4 are still more nearly another examples of a configuration of this invention, and form a protective layer 17 on the eutectic complex sensitization layer 15. Moreover, the compound photo conductor for electrophotography is shown in drawing 5 (a) as application of this invention. This thing forms the sensitization layer 12 (henceforth the 2nd sensitization layer) which has sensibility to the light which penetrates an eutectic complex sensitization layer on a conductive base, and prepares an eutectic complex sensitization layer on it further. Drawing 5 (b) shows another example of a configuration of the compound photo conductor for electrophotography, and comes to prepare an interlayer 13 between the 2nd sensitization layer and an eutectic complex sensitization layer.
[0008] What shows the conductivity below the volume resistivity cm of 1011ohms as a

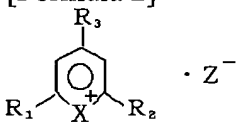
conductive base 11, Metallic oxides, such as metals, such as aluminum, nickel, chromium, Nichrome, copper, silver, gold, and platinum, tin oxide, and indium oxide, for example, by vacuum evaporationo or sputtering The plastics of the shape of the shape of a film, and a cylinder, the thing covered on paper, Or tubing which carried out surface treatment of plates, such as aluminum, an aluminium alloy, nickel, and stainless steel, and them by cutting, super-finishing, polishing, etc. after element-tube-izing by methods of construction, such as D.I., I.I., extrusion, and drawing, can be used. As mentioned above, the eutectic complex sensitization layer 15 of the electrophotography photo conductor of this invention is constituted considering an eutectic complex and the electron hole transportability matter as a principal component. An eutectic complex is built with a pyrylium system color and an electric insulation polymer here.
[0009] There are three sorts, pyrylium salt, thia pyrylium salt, and Serna pyrylium salt, in a pyrylium system color, and it has the following structure-expression-ization 1.
[Formula 1]



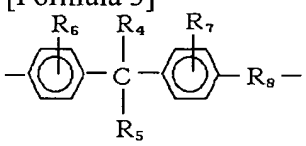
In an upper type, Ra, Rb, Rc, Rd, and Re express the following radicals, respectively.
(a) Hydrogen atom (b) On an alkyl group and a representation target, methyl, ethyl, Propyl, isopropyl, butyl, t-butyl, amyl, isoamyl, Alkyl group (c) methoxies of C1-C15, such as hexyl, octyl, nonyl, and dodecyl, Alkoxy group (d) phenyls, such as ethoxy ** propoxy, butoxy one, friend ROKISHI, HEKISOKISHI, and octoxy, Alkylphenyl;4-ethoxy phenyls, such as 4-diphenyl, 4-ethyl phenyl, and 4-propyl phenyl, 4-methoxypheny, 4-friend ROKISHI phenyl, 2-HEKISOKISHI phenyl, Alkoxy phenyl;2-hydroxy ethoxy phenyls, such as 2-methoxypheny, 3, and 4-dimethoxy phenyl, beta-hydroxy alkoxy phenyls, such as 3-hydroxy ethoxy phenyl; 4-hydroxyphenyl, 2, 4-dichlorophenyl, 3, 4-dibromo phenyl, 4-chlorophenyl, Halophenyl, such as 3 and 4-dichlorophenyl; Azide phenyl, Aminophenyl, such as nitrophenyl, 4-diethylaminophenyl, and 4-dimethylamino phenyl; Naphthyl, Styryl, methoxy styryl, diethoxy styryl, dimethylaminostyryl, The 1-butyl-4-P-dimethylamino phenyl -1, 3-swine JIENIRU, An aryl group including a permutation aryl group like vinyl permutation aryl groups, such as beta-ethyl-4-dimethylaminostyryl, Moreover, X is sulfur, oxygen, or a selenium atom, and Z- is anion functional groups, such as perchlorate, fluoroborate, an iodide, a chloride, a bromide, a sulfate, periodide, P-toluenesulfonate, and hexafluorophosphate.
[0010] Furthermore, Ra, Rb, Rc, Rd, and Re may be atoms required to complete the aryl ring jointly united with the pyrylium nucleus. The example of representation of such a pyrylium system color is shown below.
[Table 1-(1)]
Compound No. Compound name 1 4-[4-screw -2 (chloro ethyl) aminophenyl]-2 and 6-diphenyl Thia pyrylium perchlorate 2 4-(4-dimethylamino phenyl)-2 and 6-diphenyl thia pyrylium Perchlorate 3 4-(4-dimethylamino phenyl)-2 and 6-diphenyl thia pyrylium Fluoroborate 4 4-(4-dimethylamino-2-methylphenyl)-2 and 6-diphenyl pyrylium perchlorate 5 4-[4-bis(2-chloro ethyl) aminophenyl]-2 - () [4-METOKISHIFU] ENIRU-6-phenyl thia pyrylium perchlorate 6 4-(4-dimethylamino phenyl)-2 and 6-diphenyl thia pyrylium Sulfate 7 4-(4-dimethylamino phenyl)-2 and 6-diphenyl thia pyrylium P-toluenesulfonate 84-(4-dimethylamino phenyl) 2 and 6-diphenyl pyrylium-P-TO RUEN sulfonate 9 2-(2 and 4-dimethoxy phenyl)-4 -(4-dimethylamino phenyl)- BE (NZO b) pyrylium perchlorate 10 2 and 6-bis(4-ethyl phenyl)-4-(4-

dimethylamino phenyl) CHI APIRIRIUMU perchlorate 11 4-(4-dimethylamino phenyl)-2-(4-methoxypheny)-6-FE Nil thia pyrylium perchlorate 12 4-(4-dimethylamino phenyl)-2-(4-ethoxy phenyl)-6-FE Nil thia pyrylium perchlorate 13 4-(4-dimethylamino phenyl)-2-(4-methoxypheny)-6 -(4- methylphenyl)- Pyrylium perchlorate [table 1-(2)]
14 4-(4-diphenyl aminophenyl)-2 and 6-diphenyl thia PIRIRIU MUPA chlorate 15 2-4-6-triphenyl pyrylium perchlorate 16 4-(4-methoxypheny)-2 and 6-diphenyl pyrylium par KURORE - TO 17 4-(2 and 4-dichlorophenyl)-2 and 6-diphenyl pyrylium par clo Rate 18 4-(3 and 4-dichlorophenyl)-2 and 6-diphenyl pyrylium par clo Rate 19 A 2-6-bis(4-methoxypheny)-4-phenyl pyrylium par clo Rate 20 6-(4-methoxypheny)-2 and 4-diphenyl pyrylium perchlorate 21 2-(3 and 4-dichlorophenyl)-4-(4-methoxypheny)-6-phenyl Pyrylium perchlorate 22 4-(4-friend ROKISHI phenyl)-2 and 6-bis(4-ethyl phenyl) PIRIRI UMUPA chlorate 23 4-(4-friend ROKISHI phenyl)-2 and 6-bis(4-methoxypheny) pilus RIUMU perchlorate 24 2, 4, and 6-triphenyl pyrylium fluoroborate 25 2 and 6-screw -4 (4-ethyl phenyl) - () [4-methoxypheny pyrylium] Perchlorate 26 2 and 6-bis(4-ethyl phenyl)-4-(4-methoxypheny) PIRIRIU MUFURUORO borate 27 6-(3 and 4-diethoxy styryl)-2, 4, and a diphenyl pyrylium park RORETO 28 6-(3 and 4-diethoxy-beta-amyl styryl)-2 and 4-diphenyl PIRIRI UMUFURUORO borate [table 1-(3)]
29 6-(4-dimethylamino-beta-ethyl styryl)-2 and 4-diphenyl pilus RIUMU fluoroborate 30 6 - () [1-n-amyl-4-p-dimethylamino phenyl-1 and] [3-swine dienyl] -2 and 4-diphenyl pyrylium fluoroborate 31 6-(4-dimethylaminostyryl)-2, 4, and diphenyl pyrylium full OROBO rate 32 6-[alpha-ethyl-beta-beta-bis(dimethylamino phenyl) vinylene]
- 2 and 4-diphenyl pyrylium fluoroborate 33 6-(1-butyl-4-p-dimethylamino phenyl-1 and 3-swine dienyl)-2 - 4-diphenyl pyrylium fluoroborate 34 5-(4-dimethylaminostyryl)-2 and 4-diphenyl pyrylium par Chlorate 35 6-[beta-beta-bis(4-dimethylamino phenyl) vinylene]-2 and 4-JI Phenyl pyrylium perchlorate 36 2 and 6-bis(4-dimethylaminostyryl)-4-phenyl pilus RIUMUPA - chlorate 376-(beta-methyl-4-dimethylaminostyryl)-2 and 4-diphenyl pilus RIUMU fluoroborate 38 6-[1-ethyl-4-(4-dimethylamino phenyl)-1 and 3-swine dienyl]-2 and 4-dienyl pyrylium fluoroborate 39 6-[beta-beta-bis(4-dimethylamino FENI) vinylene]-2 and 4-JIFU ENIRU pyrylium fluoroborate 40 6-[1-methyl -4 - () [4-dimethylamino phenyl-1 and] [3-swine dienyl]]-2 and 4-JIFERU pyrylium fluoroborate 41 4-(4-dimethylamino phenyl)-2 and 6-diphenyl pyrylium par chlorate 42 2 and 6-bis(4-ethyl phenyl)-4-phenyl pyrylium perchlorate [table 1-(4)] 43 2 and 6-bis(4-ethyl phenyl)-4-methoxypheny thia PIRIRIU MUFURUORO borate 44 2, 4, and 6-triphenyl thia pyrylium perchlorate 45 4-(4-methoxypheny)-2 and 6-diphenyl thia pyrylium park RORETO 46 6-(4-methoxypheny)-2 and 4-diphenyl thia pyrylium park RORETO 47 A 2-6-bis(4-methoxypheny)-4-phenyl thia pyrylium par Chlorate 48 4-(2 and 4-dichlorophenyl)-2 and 6-diphenyl thia pyrylium par Chlorate 49 2, 4, and 6-Tori (4-methoxypheny) thia pyrylium perchlorate 50 2 and 6-bis(4-ethyl phenyl)-4-phenyl thia pyrylium park RORETO 51 4-(4-amyloxy phenyl)-2 and 6-bis(4-ethyl phenyl) thia Pyrylium perchlorate 52 6-(4-dimethylaminostyryl)-2 and 4-diphenyl thia pyrylium Perchlorate 53 2, 4, and 6-triphenyl thia pyrylium fluoroborate 54 2, 4, and 6-triphenyl thia pyrylium sulfate 55 4-(4-methoxypheny)-2 and 6-diphenyl thia pyrylium FURUO ROPORETO 56 2, 4, and 6-triphenyl thia pyrylium chloride 57 2-(4-amyloxy phenyl)-4 and 6-diphenyl thia pilus RIUMUFU RUOROPO rate 58 4-(4-amyloxy phenyl)-2 and 6-bis(4-methoxypheny) CHI APIRIRIUMU perchlorate [table 1-(5)]
59 A 2 and 6-bis(4-ethyl phenyl)-4-(4-methoxypheny) thia pilus RIUMU perchlorate 60 4-anisyl-2 and 6-bis(4-n-amyloxy phenyl) thia PIRIRIU MUKURORAIDO 61 2-[beta-beta-bis(4-

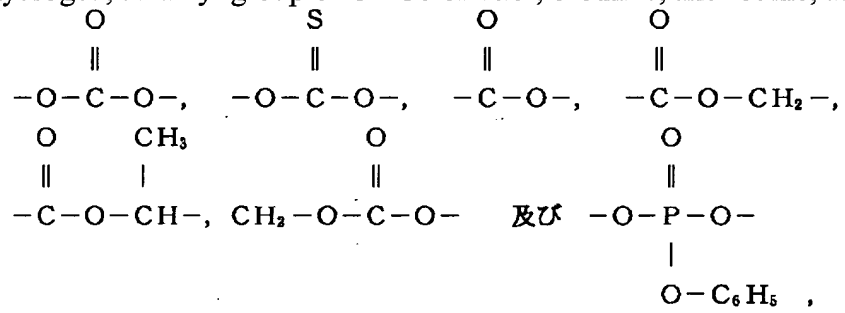
dimethylamino phenyl) vinylene]-4 and 6-JI Phenyl thia pyrylium perchlorate 62 6-(beta-ethyl-4-dimethylaminostyryl)-2 and 4-diphenyl thia Pyrylium perchlorate 632-(3 and 4-diethoxy styryl)-4 and 6-diphenyl thia pilus RIUMUPA - chlorate 64 2, 4, and 6-thoria NISHIRUCHIA pyrylium perchlorate 65 6-ethyl-2 and 4-diphenyl pyrylium fluoroborate 66 A 2 and 6-bis(4-ethyl phenyl)-4-(4-methoxypheny) thia pilus RIUMU chloride 67 6-[beta-beta-bis(4-dimethylamino phenyl) vinylene]-2 and 4-JI () 4-ethyl phenyl pyrylium perchlorate 68 2 and 6-bis(4-amyloxy phenyl)-4-(4-methoxypheny) CHI APIRIRIUMU perchlorate 69 6-(3 and 4-diethoxy-beta-ethyl styryl)-2 and 4-diphenyl PIRIRI UMUFURUORO borate 70 6-(4-methoxy-beta-ethyl styryl)-2 and 4-diphenyl pyrylium Fluoroborate 71 2-(4-ethyl phenyl)-4 and 6-diphenyl thia pyrylium PAKURO Rate 72 2 and 6-diphenyl-4-(4-methoxypheny) thia pyrylium park RORETO 73 2 and 6-diphenyl-4-(4-methoxypheny) thia pyrylium FURUO ROBORETO [table 1-(6)]
74 2 and 6-bis(4-ethyl phenyl)-4-(4-n-amyloxy phenyl) CHI APIRIRIUMU perchlorate 75 2 and 6-bis(4-methoxypheny) 4-(4-n-amyloxy phenyl) CHI APIRIRIUMU perchlorate 76 2, 4, and 6-tris (4-methoxypheny) thia pyrylium full OROBORE - TO 77 2 and 4-diphenyl-6-(3 and 4-diethoxy styryl) pyrylium perchlorate 78 4-(4-dimethylamino phenyl)-2-(phenylbenzo b) SERENA pyrylium perchlorate 79 2-(2 and 4-dimethoxy phenyl)-4 -(4-dimethylamino phenyl)-BE (NZO b) SERENA pyrylium perchlorate 80 4-(4-dimethylamino phenyl)-2 and 6-diphenyl SERENAPIRIRIU MUPA chlorate 814-(4-dimethylamino phenyl)-2-(4-ethoxy phenyl)-6-FE Nil SERENA pyrylium perchlorate 82 4-[4-bis(2-chloro ethyl) aminophenyl]-2 and 6-diphenyl SERENA pyrylium perchlorate 83 4-(4-dimethylamino phenyl)-2 and 6-bis(4-ethyl phenyl)-SE RENAPIRIRIUMU perchlorate 84 4-(4-dimethylamino-2-methylphenyl)-2 and 6-diphenyl SERENA Pyrylium perchlorate 85 3-(4-dimethylamino phenyl) naphth (2 and 1-b) SERENA pyrylium perchlorate 86 4-(4-dimethylaminostyryl)-2-(4-methoxypheny) benzo (b) SERENA pyrylium perchlorate 87 2 and 6-JI (4-diethylaminophenyl)-4-phenyl SERENAPIRIRIU MUPA chlorate [table 1-(7)]
88 4-(4-dimethylamino phenyl)-2-(4-ethoxy phenyl)-6-FE Nil thia pyrylium fluoroborate 89 4-(4-dimethylamino phenyl)-2 and 6-diphenyl pilus RIUMUHEKI SAFURUORO phosphate 90 4-(4-dimethylamino phenyl)-2 and 6-diphenyl thia pyrylium hexafluoro phosphate 91 4-(4-dimethylamino phenyl)-2 and 6-diphenyl SERENAPIRIRIU MUHEKISA fluoro phosphate
[0011] Especially a useful pyrylium color has the following structure-expression-ization 2.
[Formula 2]



The inside R1 and R2 of a formula may be an aryl group like the permutation phenyl group which has at least one substituent chosen from the alkyl group of C1-C6, and the alkoxy group of C1-C6, and a dialkylamino permutation and its halo alkylamino permutation phenyl group are [an alkyl part may be the alkylamino permutation phenyl group of C1-C6, and] sufficient as R3. X is oxygen, sulfur, or a selenium atom, and Z- is as above-mentioned.
[0012] Especially the thing that has the alkylidene JIARIREN part shown by the following-ization 3 in a principal chain (repeating unit) as an electric insulation polymer is useful.
[Formula 3]

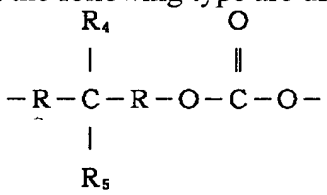


The methyl in which a hydrogen atom and a permutation alkyl group like trifluoromethyl are included by the inside R4 and R5 of a formula, respectively, Ethyl, propyl, isopropyl, butyl, t-butyl, pentyl, Alkyl groups, such as hexyl, heptyl, octyl, nonyl, and DESHIRU, They are aryl groups, such as phenyl containing the permutation aryl group which has a halogen and a substituent like the alkyl group of C1-C5, and naphthyl. Moreover, R4 and R5 may be carbon atoms required to form the cyclic hydrocarbon radical which contains the cycloalkanes like cyclohexyl, and the poly cycloalkanes like norbornyl jointly. R5 and R7 are halogens, such as hydrogen, an alkyl group of C1-C6 or Krol, bromine, and iodine, and R8 .



It is the divalent radical chosen from the group which becomes more.

[0013] Moreover, it is [that the hydrophobic carbonate polymers (polycarbonate) which consist of a repeating unit of the following type are useful, and] desirable.



Among a formula, R is a phenylene group containing halo permutation phenylene groups and alkylation phenylene groups, and R4 and R5 are as above-mentioned. These polymers are indicated by USP No. 3,028,365 and said 3,317,466 numbers. The polycarbonates containing the polymer which contained the alkylidene JIARIREN part preferably in a repeating unit which is manufactured from bisphenol A, and was generated by the ester interchange between diphenyl carbonate and a 2 and 2-bis(4-hydroxyphenyl) propane are useful. such a polymer -- USP No. 2,999,750 -- said -- No. 3,038,874 -- said -- No. 3,038,880 -- said -- No. 3,106,544 -- said -- No. 3,106,545 -- said -- it is indicated by No. 3,106,546 etc. Anyway, film plasticity polycarbonate resin can be used broadly. Use of what has about 0.5 to 1.8 intrinsic viscosity especially obtains the result which may be satisfied. The example of an electric insulation polymer is as follows.

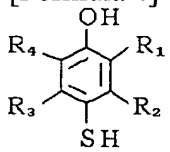
[0014]

[Table 2-(1)]

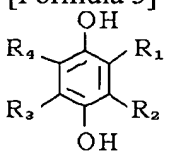
A number Polymer ingredient 1 Pori () [4, 4'-isopropylidene diphenylene-CO-1,] [4-cyclohexyl] - Dimethyl carbonate 2 Pori (3 and 3'-ethylene dioxy FENIRENCHIO carbonate) 3 Pori (4) [4'-isopropylidene diphenylene carbonate-CO-TEREFU] TARETO 4 Pori (4 and 4'-isopropylidene diphenylene carbonate) 5 Pori (4 and 4'-isopropylidene phenylene thio carbonate) [6] Pori (2 and 2-butane screw-4-phenylene carbonate) 7 Pori (4) [4'-isopropylidene diphenylene carbonate-block-] Ethylene oxide Pori 8 (4) [4'-isopropylidene diphenylene carbonate-block-] tetramethylene oxide 9 Pori [4 and 4'-isopropylidene bis(2-methyl phenylene)

KABONE -TO]
10 Pori () [4, 4'-isopropylidene phenylene-CO-1,] [4-phenylene carbo] NETO 11 Pori () [4, 4'-isopropylidene diphenylene-CO-1,] [3-phenylene car] BONETO 12 Pori () [4, 4'-isopropylidene diphenylene-CO-4,] [4'-diphenylene] Carbonate 13 Pori () [4, 4'-isopropylidene diphenylene-CO-4,] [4'-oxy-JIFE] NIREN carbonate 14 Pori () [4, 4'-isopropylidene diphenylene-CO-4,] [4'-cull PONIRU-JI] Phenylene carbonate 15 Pori (4, 4'-isopropylidene diphenylene-CO-4, 4'-ECHIRENJIFU ENIREN carbonate) 16 Pori [4 and 4'-methylenebis (2-methyl phenylene) carbonate]
17 Pori [1, 1-(P-BUROMO Phenyl Ethane)-Bis(4-Phenylene) Carbo NNETO]
18 Pori [4, 4' - Isopropanal Pilus Ten Diphenylene-CO-Sulfonyl-Bis(4-Phenylene) Carbonate]
19 Pori [1 and 1-Cyclohexane Bis(4-Phenylene) Carbonate]
20 Pori [4 and 4'-Isopropylidene Bis(2-Chloro Phenylene) KABONE -TO]
21 Pori () [hexafluoro isopropanal kinky thread DENJI-4-phenylene car BONE] TO 22 Pori [4, 4'-isopropylidene diphenylene -4, 4'-isopropanal PIRIDE NJIBENZOETO 23 Pori () [the 4 and 4'-isopropanal pilus ten dibenzyl -4,] [4'-isopropanal pilus ten] JIBENZOETO 24 Pori [2 and 2-(3-methyl butane) bis--4-phenylene carbonate 25 Pori [2 and 2-(3 and 3-dimethyl butane) bis--4-phenylene carbonate]
26 Pori {1 and 1-[1-(1-Naphthyl)] Bis--4-Phenylene Carbonate} 27 Pori [2 and 2-(4-Methyl Pentane) Bis--4-Phenylene Carbonate]
28 Pori [4 and 4'-(2-NORUBORUNIRIDEN) Diphenylene Carbonate]
29 Pori [4, 4' -(KISAHIDORO -4, 7-Methano Intern-5-Ylidene)- JIFU ENIREN Carbonate]
30 Pori (4 and 4'-Isopropylidene Diphenylene Carbonate-Block- Oxy-Tetramethylen) [0015] As electron hole transportability matter, Polly N-vinylcarbazole and its derivative, A Polly gamma-carbazolyl ethyl glutamate and its derivative, a pyrene-formaldehyde condensate, and its derivative, A polyvinyl pyrene, a polyvinyl phenanthrene, an oxazole derivative, An OKISA diazole derivative, an imidazole derivative, a mono-arylamine derivative, A diarylamine derivative, a thoria reel amine derivative, a stilbene derivative, alpha-phenyl stilbene derivative, a benzidine derivative, a diaryl methane derivative, Well-known ingredients, such as a thoria reel methane derivative, 9-styryl anthracene derivative, a pyrazoline derivative, a divinylbenzene derivative, a BIDORASON derivative, an indene derivative, and a swine JIEN derivative, are used.
[0016] What is necessary is to dissolve a pyrylium system color, an above-mentioned electric insulation polymer, and the above-mentioned electron hole transportability matter in a suitable solvent, for example, a tetrahydrofuran, toluene, 1,2-dichloroethane, a methylene chloride, chloroform, mono-chlorobenzene, dichlorobenzene, benzene, etc., to apply this on the conductive base 11, to dry at 50-130 degrees C, and just to form the photoconduction layer (eutectic complex sensitization layer) 15 of 5-50 micrometers of thickness, in order to build the eutectic complex sensitization layer 15 of this invention. Spreading can be performed using a dip coating method, the bead coat method, a spray coating method, a wire blade, a doctor blade, the Ayr knife, etc.
[0017] While this spreading desiccation is made, an eutectic complex is formed with a pyrylium system color and an electric insulation polymer. The electric insulation polymer 5 - 80 weight sections, and the electron hole transportability matter 1 - 50 weight sections are suitable for the rate of each component in the eutectic complex sensitization layer 15 to the pyrylium system color 1 weight section. Moreover, in case this layer 15 is formed, leveling agents, such as silicone oil, may be added in coating liquid. About 0 - 1 % of the weight is suitable for the

amount used to an electric insulation polymer.
[0018] Although an antioxidant can be added if needed in this eutectic complex sensitization layer, that addition is 0.01 - 10 weight section to the electron hole transportability matter 100 weight section, and is 0.1 - 5 weight section preferably. In addition, although what is necessary is just to add an antioxidant to eutectic complex sensitization layer coating liquid in order to add an antioxidant, the addition stage or addition sequence is good always, and does not become a problem.
[0019] Hereafter, the antioxidant which can be used for this invention is shown. Although all ingredients well-known as plastics, rubber, petroleum, the anti-oxidant of fats and oils, an ultraviolet ray absorbent, and light stabilizer can be used as an anti-oxidant which can be used for this invention, the ingredient chosen from the compound group especially shown below can use it preferably.
[0020] (1) BINDADOFE Norians given in a phenol derivative and JP,63-18356,A given in phenols given in JP,57-122444,A, and JP,60-188956,A
[0021] (2) A p phenylenediamine derivative given in p phenylenediamines given in JP,57-122444,A, and JP,60-188956,A, and p phenylenediamines given in JP,63-18356,A
[0022] (3) A hydroquinone derivative given in hydroquinone given in JP,57-122444,A, and JP,60-188956,A, and hydroquinone given in JP,63-18356,A
[0023] (4) Organic sulfur compounds given in a sulfur compound and JP,63-18356,A given in JP,57-188956,A
[0024] (5) An organic phosphorous compound given in JP,57-122444,A, and organic phosphorous compounds given in JP,63-18356,A
[0025] (6) Hydroxyanisole given in JP,57-122444,A
[0026] (7) The piperidine derivative and oxo-piperazine derivative which have the specific skeletal structure of a publication in JP,63-18355,A.
[0027] (8) Carotene given in JP,60-188956,A, amines, tocopherols, nickel (II) complex, and sulfides
[0028] (9) a U.S. Pat. No. 1968906 specification and J.Am.Chem.Soc. -- the compound shown in 55 and 1224 (1933) by the following general formula (I) and (** 4) of a publication.
[Formula 4]



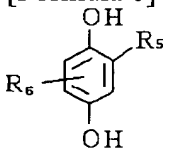
(R1-R4 express among a formula the alkyl group which is not permuted [a hydrogen atom, a halogen atom, a BIROKISHI radical, a permutation, or], an alkenyl radical, an aryl group, a cycloalkyl radical, an alkoxy group, an aryloxy radical, an alkylthio group, an aryl thio radical and the permutation amino group, an imino group, a heterocycle radical, a sulfoxide radical, a sulfonyl group, an acyl group, and azo, respectively.)
[0029] (10) The compound shown by the following general formula (II) and (** 5).
[Formula 5]



the inside of a formula, and R1, R2, R3 and R4 -- respectively -- a hydrogen atom and a halogen atom -- The alkenyl radical which is not permuted [the alkyl group which is not permuted / a permutation or /, a permutation, or], The cycloalkyl radical which is not permuted [the aryl group which is not permuted / a permutation or /, a permutation, or], The aryloxy radical which is not permuted [the alkoxy group which is not permuted / a permutation or /, a permutation, or], An alkylthio group, an aryl thio radical, an alkylamino radical, an arylamino radical, An acyl group, an alkyl acylamino radical, an aryl acylamino radical, an alkyl carbamoyl group, An aryl KARUGI moil radical, an alkyl sulfonamide radical, an aryl sulfonamide radical, An alkyl sulfamoyl group, an arylsulfamoyl group, an alkyl sulfonyl group, an aryl sulfonyl group, an alkyloxy carbonyl group, an aryloxy carbonyl group, an alkyl acyloxy radical, an aryl acyloxy radical, a silyl radical, or a heterocycle radical is expressed. However, the total of a carbon atomic number of at least one of R1, R2, R3, and R4 is four or more radicals.

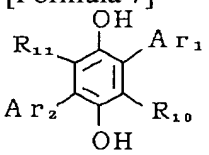
[0030] (11) The compound shown by the following general formula (III) (** 6).

[Formula 6]



the inside of a formula, and R5 -C-CnH2n+1-m(R9) m -- expressing -- R6 -- the alkyl group which is not permuted [the permutation of end of carbon 4-20, or] -- An aryloxy group, an alkoxy group, a cycloalkyl radical, an aryl group, Although an aralkyl radical or R5 may be expressed, and it may combine with R9 and the ring of carbon numbers 5-10 may be formed R7 and R8 are not hydrogen at coincidence. R9 The aryl group which is not permuted [a permutation or], An aryl thio radical, an aryloxy group, an aryl acylamino radical, an aryl carbamoyl group, an aryl sulfonyl radical, an aryloxy carbonyl group, an aryl acyloxy radical, an arylamino radical, an aryl sulfonamide radical, and an arylsulfonyloxy radical are expressed, n expresses 1-5, and m expresses 1 or 2. [0031] (12) The compound shown by the following general formula (IV) and (** 7).

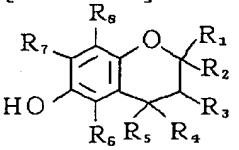
[Formula 7]



(Ar1 and Ar2 express among a formula the aryl group which is not permuted [a permutation or], an aryl thio radical, an aryloxy group, benzyl, and a phthalimide radical, and R10 and R11 express the alkyl group which is not permuted [a hydrogen atom, a halogen atom, a permutation, or], an alkenyl radical, an alkoxy group, an alkylthio group, an acyl group, an alkylamino radical, and an alkyl carbamoyl group.)

[0032] (13) The compound shown by the following general formula (V) and (** 8).

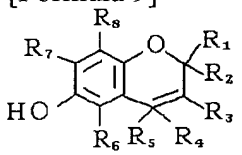
[Formula 8]



the inside of a formula, and R1, R2, R3, R4, R5, R6, R7 and R8 -- respectively -- a hydrogen atom -- The alkenyl radical which is not permuted [the alkyl group which is not permuted / a halogen atom, a permutation, or /, a permutation, or], The cycloalkyl radical which is not permuted [the aryl group which is not permuted / a permutation or /, a permutation or], The aryloxy radical which is not permuted [the alkoxy group which is not permuted / a permutation or /, a permutation, or], An alkylthio group, an aryl thio radical, an alkylamino radical, an arylamino radical, An acyl group, an alkyl acylamino radical, an aryl acylamino radical, an alkyl carbamoyl group, An aryl KARUGI moil radical, an alkyl sulfonamide radical, an aryl sulfonamide radical, An alkyl sulfamoyl group, an arylsulfamoyl group, an alkyl sulfonyl group, an aryl sulfonyl group, an alkyloxy carbonyl group, an aryloxy carbonyl group, an alkyl acyloxy radical, an aryl acyloxy radical, a silyl radical, or a heterocycle radical is expressed.

[0033] (14) The compound shown by the following general formula (VI) and (** 9).

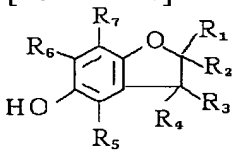
[Formula 9]



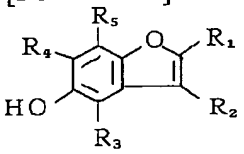
the inside of a formula, and R1, R2, R3, R4, R5, R6, R7 and R8 -- respectively -- a hydrogen atom -- The alkenyl radical which is not permuted [the alkyl group which is not permuted / a halogen atom, a permutation, or /, a permutation, or], The cycloalkyl radical which is not permuted [the aryl group which is not permuted / a permutation or /, a permutation or], The aryloxy radical which is not permuted [the alkoxy group which is not permuted / a permutation or /, a permutation, or], An alkylthio group, an aryl thio radical, an alkylamino radical, an arylamino radical, An acyl group, an alkyl acylamino radical, an aryl acylamino radical, an alkyl carbamoyl group, An aryl KARUGI moil radical, an alkyl sulfonamide radical, an aryl sulfonamide radical, An alkyl sulfamoyl group, an arylsulfamoyl group, an alkyl sulfonyl group, an aryl sulfonyl group, an alkyloxy carbonyl group, an aryloxy carbonyl group, an alkyl acyloxy radical, an aryl acyloxy radical, a silyl radical, or a heterocycle radical is expressed.

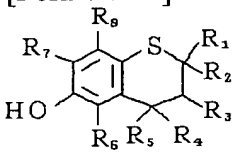
[0034] (15) The compound shown by the following general formula (VII) (** 10).

[Formula 10]



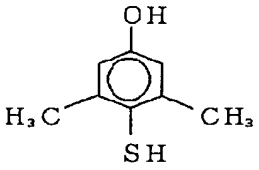
the inside of a formula, and R1, R2, R3, R4, R5, R6, R7 and a ********** hydrogen atom -- The alkenyl radical which is not permuted [the alkyl group which is not permuted / a halogen atom, a permutation, or /, a permutation, or], The cycloalkyl radical which is not permuted [the aryl group which is not permuted / a permutation or /, a permutation or], The aryloxy radical which is not permuted [the alkoxy group which is not permuted / a permutation or /, a permutation, or], An alkylthio group, an aryl thio radical, an alkylamino radical, an arylamino radical, An acyl group, an alkyl acylamino radical, an aryl acylamino radical, an alkyl carbamoyl group, An aryl KARUGI moil radical, an alkyl sulfonamide radical, an aryl sulfonamide radical, An alkyl sulfamoyl group, an arylsulfamoyl group, an alkyl sulfonyl group, an aryl sulfonyl group, an alkyloxy carbonyl group, an aryloxy carbonyl group, an alkyl acyloxy radical, an aryl acyloxy radical, a silyl radical, or a heterocycle radical is expressed.

[0035] (16) The compound shown by the following general formula (VIII) (** 11).
[Formula 11]


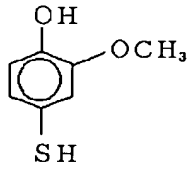
the inside of a formula, and R1, R2, R3, R4 and R5 -- respectively -- a hydrogen atom and a halogen atom -- The alkenyl radical which is not permuted [the alkyl group which is not permuted / a permutation or /, a permutation, or], The cycloalkyl radical which is not permuted [the aryl group which is not permuted / a permutation or /, a permutation, or], The aryloxy radical which is not permuted [the alkoxy group which is not permuted / a permutation or /, a permutation, or], An alkylthio group, an aryl thio radical, an alkylamino radical, an arylamino radical, An acyl group, an alkyl acylamino radical, an aryl acylamino radical, an alkyl carbamoyl group, An aryl KARUGI moil radical, an alkyl sulfonamide radical, an aryl sulfonamide radical, An alkyl sulfamoyl group, an arylsulfamoyl group, an alkyl sulfonyl group, an aryl sulfonyl group, an alkyloxy carbonyl group, an aryloxy carbonyl group, an alkyl acyloxy radical, an aryl acyloxy radical, a silyl radical, or a heterocycle radical is expressed.
[0036] (17) The compound shown by the following general formula (IX) and (** 12).
[Formula 12]


the inside of a formula, and R1, R2, R3, R4, R5, R6, R7 and R8 -- respectively -- a hydrogen atom -- The alkenyl radical which is not permuted [the alkyl group which is not permuted / a halogen atom, a permutation, or /, a permutation, or], The cycloalkyl radical which is not permuted [the aryl group which is not permuted / a permutation or /, a permutation or], The aryloxy radical which is not permuted [the alkoxy group which is not permuted / a permutation or /, a permutation, or], An alkylthio group, an aryl thio radical, an alkylamino radical, an arylamino radical, An acyl group, an alkyl acylamino radical, an aryl acylamino radical, an alkyl carbamoyl group, An aryl KARUGI moil radical, an alkyl sulfonamide radical, an aryl sulfonamide radical, An alkyl sulfamoyl group, an arylsulfamoyl group, an alkyl sulfonyl group, an aryl sulfonyl group, an alkyloxy carbonyl group, an aryloxy carbonyl group, an alkyl acyloxy radical, an aryl acyloxy radical, a silyl radical, or a heterocycle radical is expressed. Although the example of the compound of general formula (I) - (IX) is shown below, of course, it is not limited to these things.
[The example of the compound of a general formula (I)]
[Table 3-(1)]

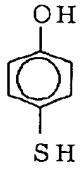
(I) −1



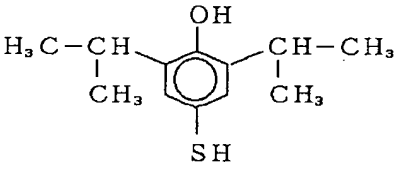
(I) −2



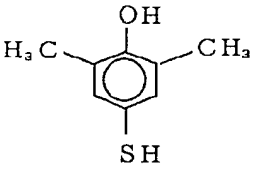
(I) −3



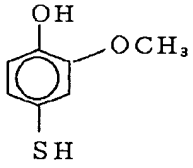
(I) −4



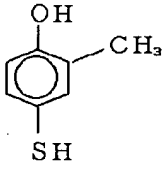
(I) −5



(I) −6

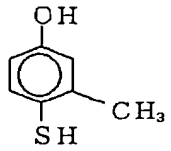


(I) −7

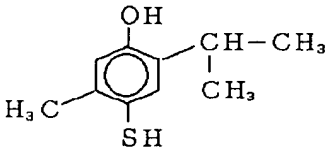


[Table 3-(2)]

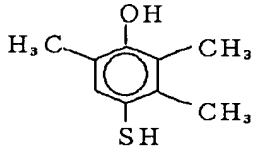
(I)-8



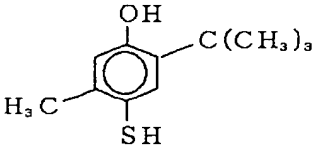
(I)-9



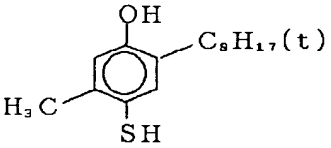
(I)-10



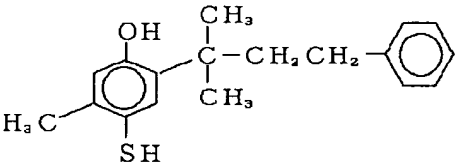
(I)-11



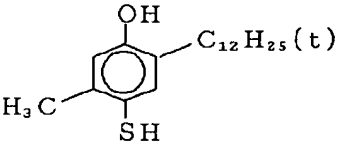
(I)-12



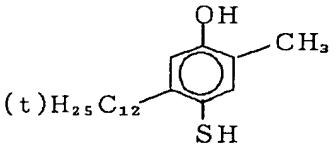
(I)-13



(I)-14

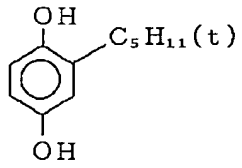


(I)-15

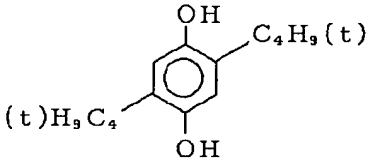


[The example of the compound of a general formula (II)]
[Table 4-(1)]

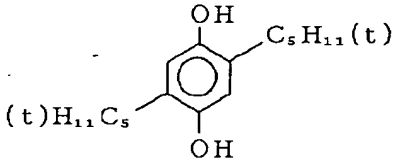
(II) −1



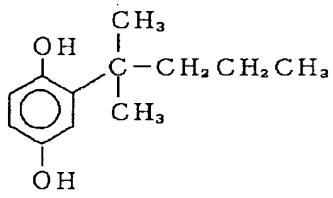
(II) −2



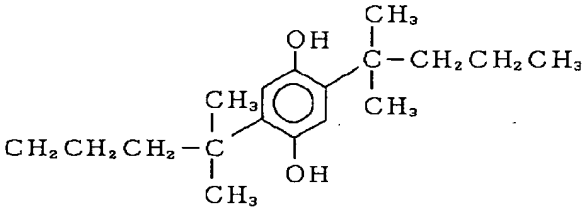
(II) −3



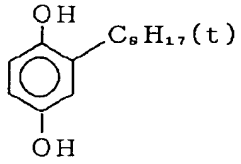
(II) −4



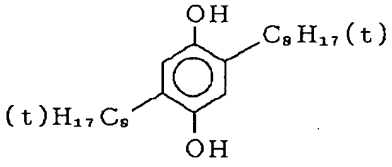
(II) −5



(II) −6

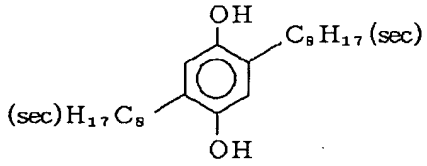


(II) −7

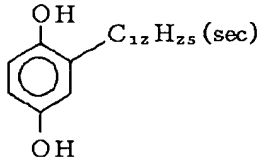


[Table 4-(2)]

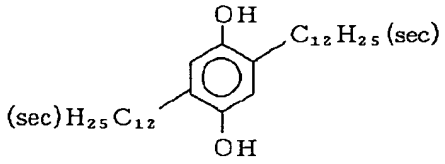
(II) −8



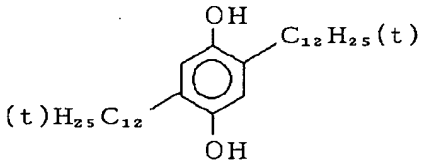
(II) −9



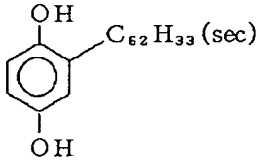
(II) −10



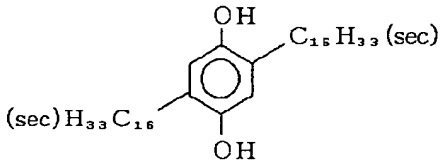
(II) −11



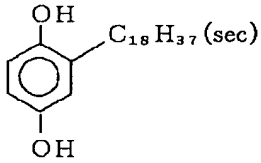
(II) −12



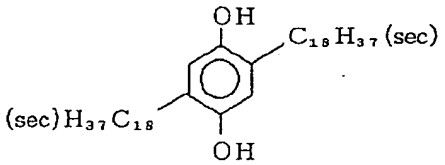
(II) −13



(II) −14

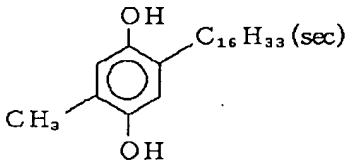


(II) −15

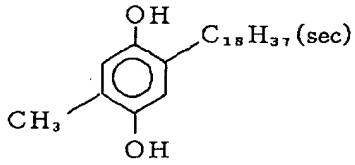


[Table 4-(3)]

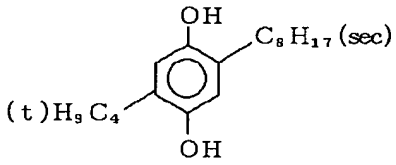
(II) −16



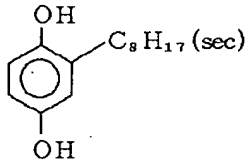
(II) −17



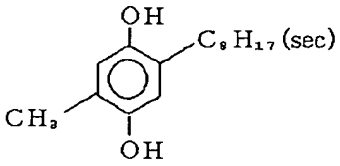
(II) −18



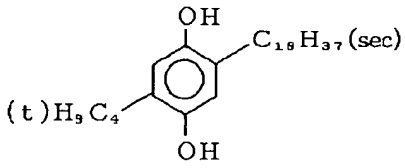
(II) −19



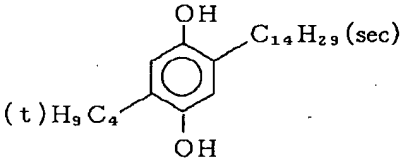
(II) −20



(II) −21



(II) −22



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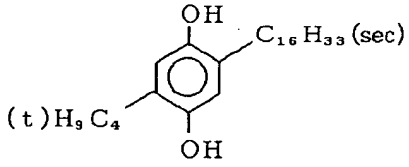
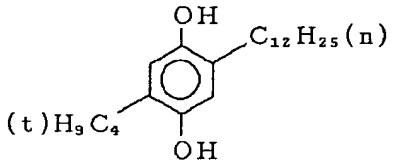
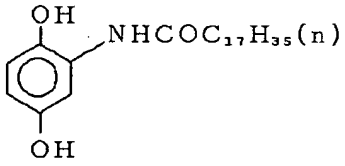


[Table 4-(4)]

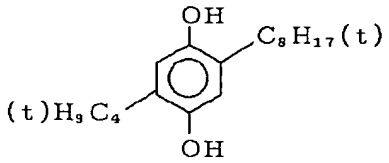
(II) −24



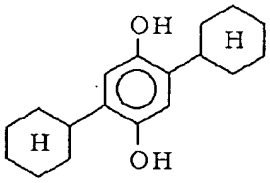
(II) −25



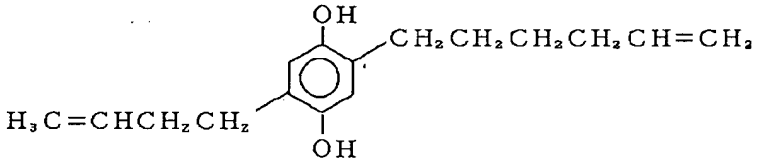
(II) −26



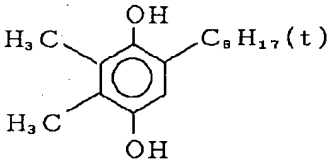
(II) −27



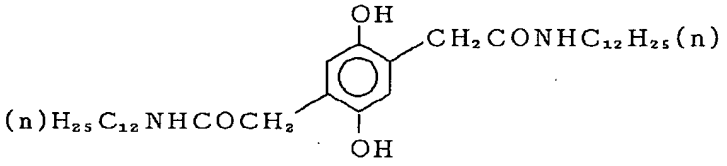
(II) −28



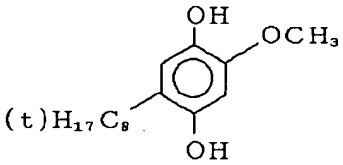
(II) −29



(II) −30

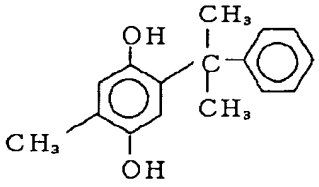


(II) −31

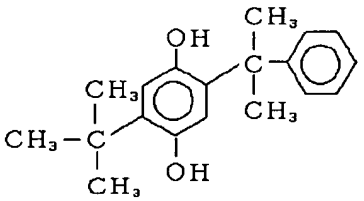


[Table 4-(5)]

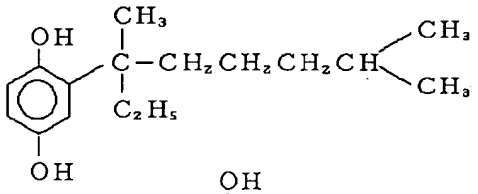
(II) −32



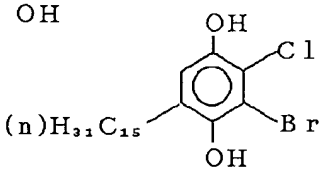
(II) −33



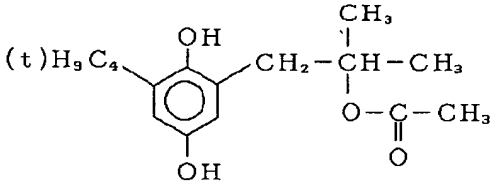
(II) −34



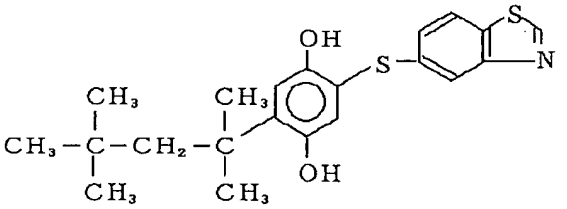
(II) −35



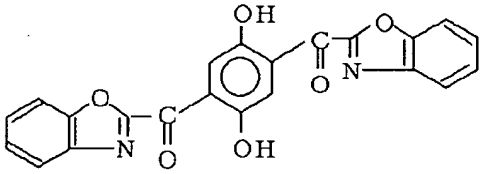
(II) −36



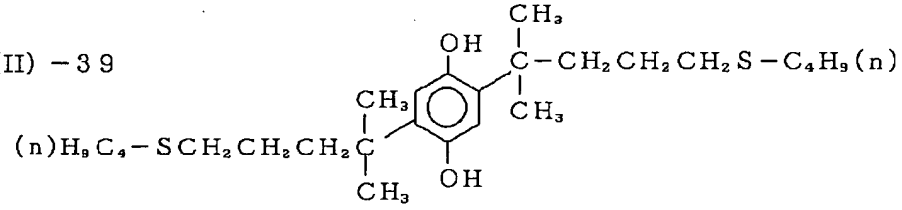
(II) −37



(II) −38

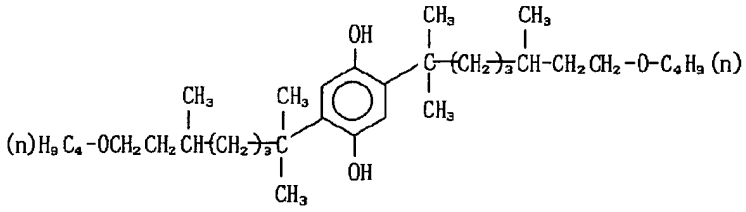


(II) −39

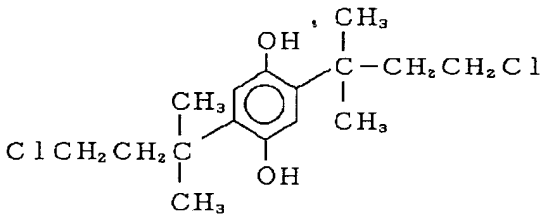


[Table 4-(6)]

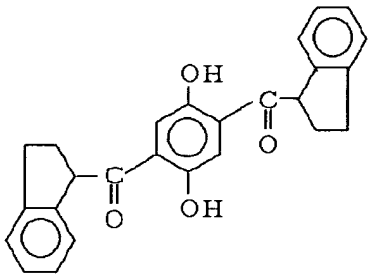
(II) −40



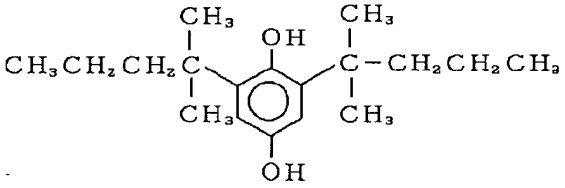
(II) −41



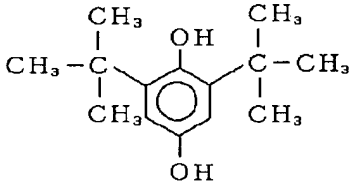
(II) −42



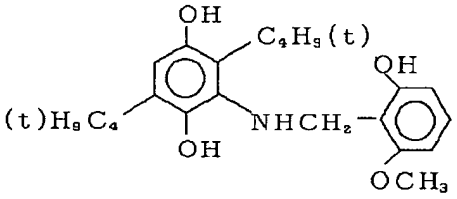
(II) −43



(II) −44

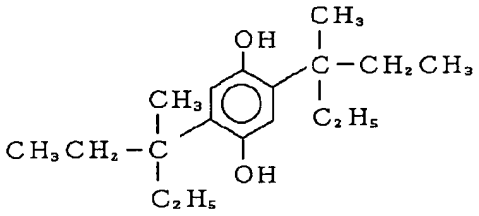


(II) −45

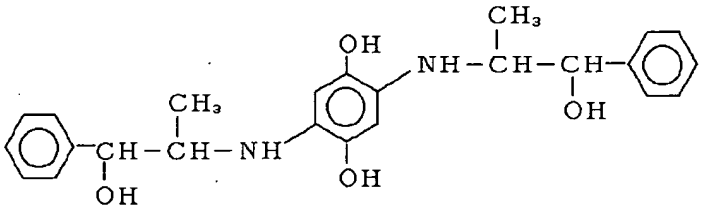


[Table 4-(7)]

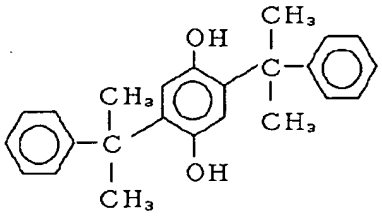
(II) −46



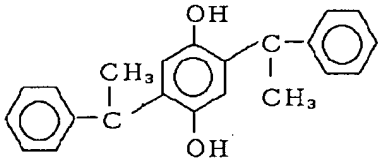
(II) −47



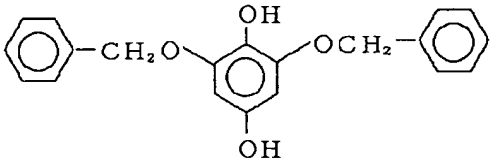
(II) −48



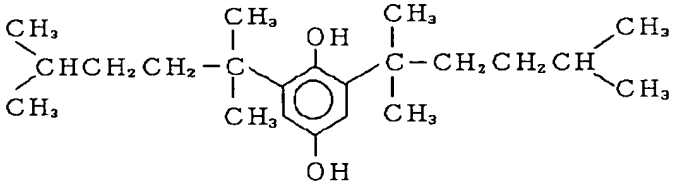
(II) −49



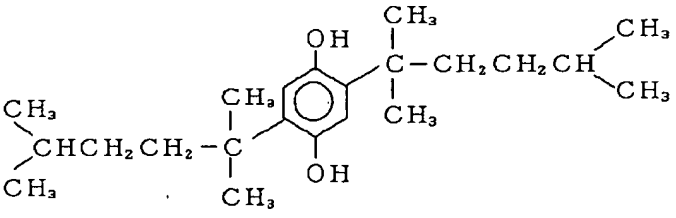
(II) −50



(II) −51

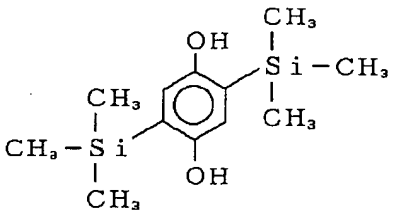


(II) −52

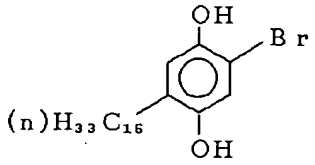


[Table 4-(8)]

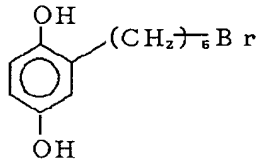
(II) −53



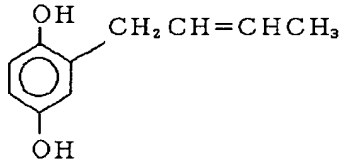
(II) −54



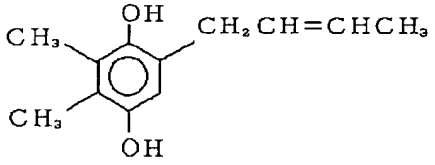
(II) −55



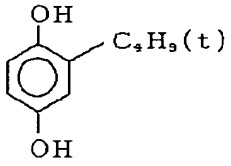
(II) −56



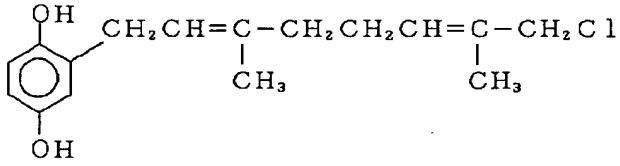
(II) −57



(II) −58

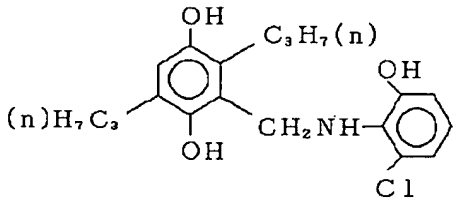


(II) −59

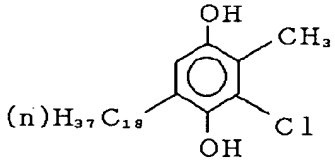


[Table 4-(9)]

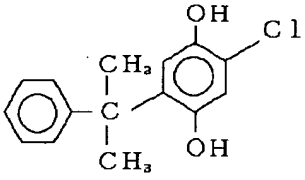
(II) −60



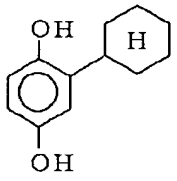
(II) −61



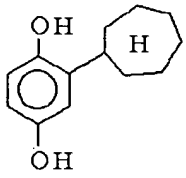
(II) −62



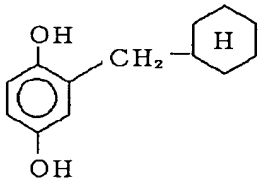
(II) −63



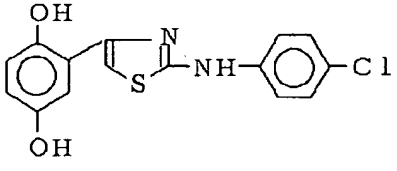
(II) −64



(II) −65



(II) −66



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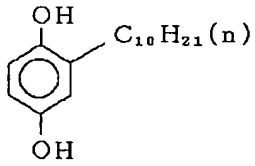
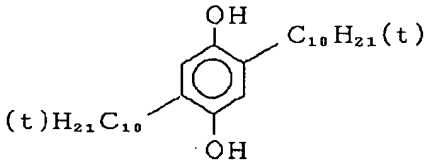
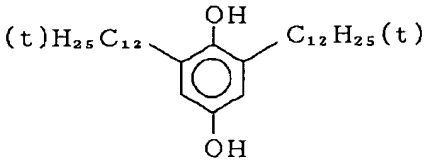
(II) −67



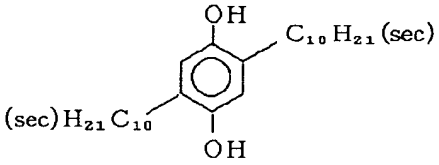
(II) −68



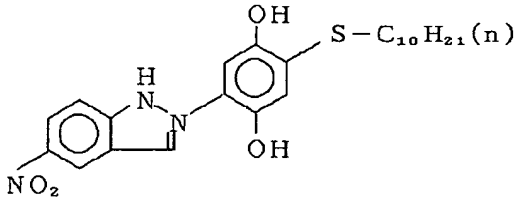
(II) −69



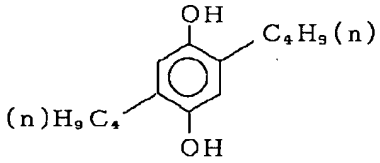
(II) −70



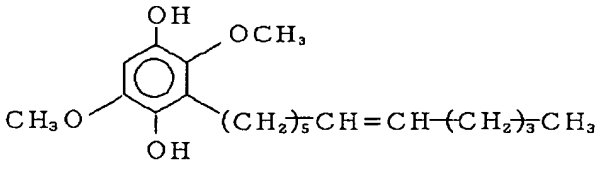
(II) −71



(II) −72

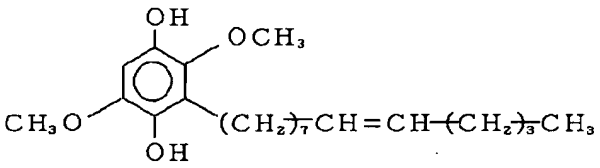


(II) −73

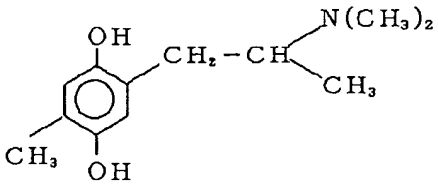


[Table 4-(11)]

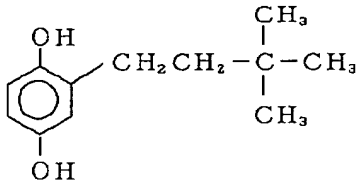
(II) −74



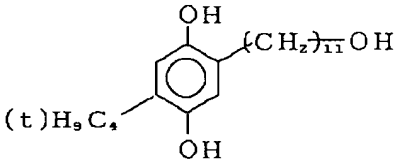
(II) −75



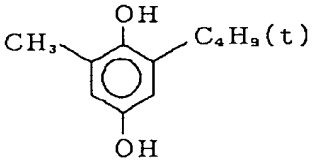
(II) −76



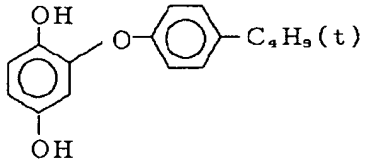
(II) −77



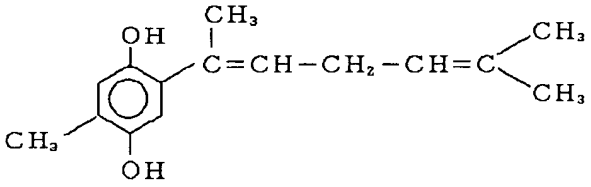
(II) −78



(II) −79

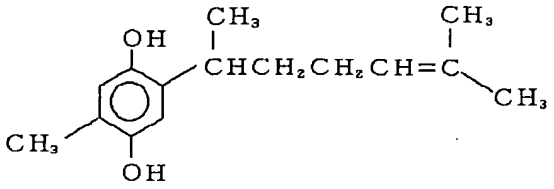


(II) −80

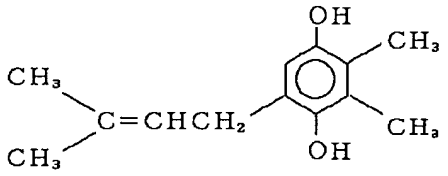


[Table 4-(12)]

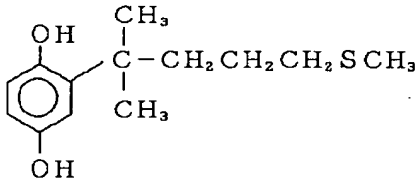
(II) −81



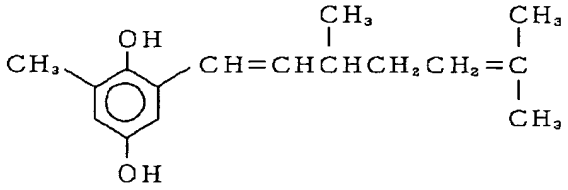
(II) −82



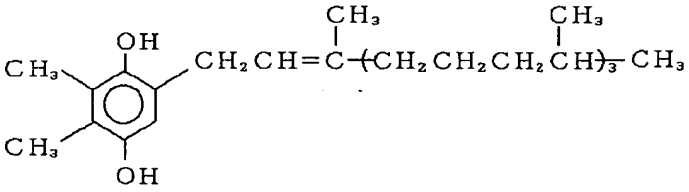
(II) −83



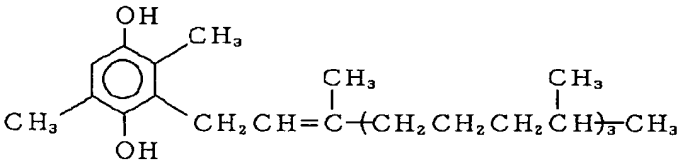
(II) −84



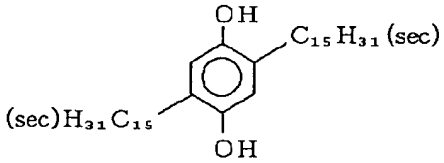
(II) −85



(II) −86

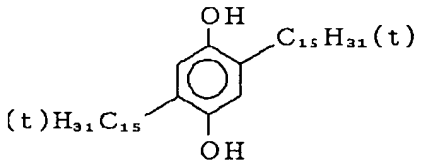


(II) −87

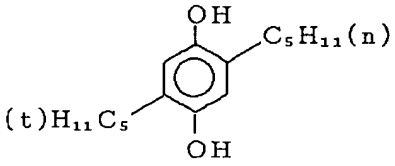


[Table 4-(13)]

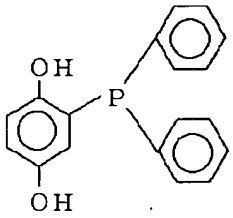
(II) −88



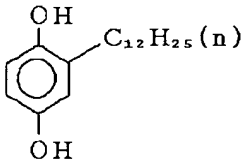
(II) −89



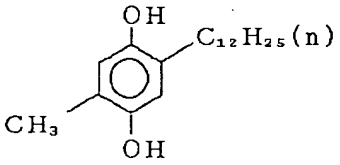
(II) −90



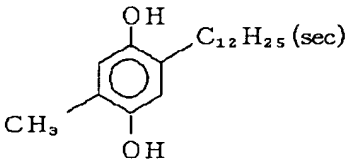
(II) −91



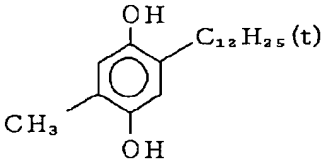
(II) −92



(II) −93

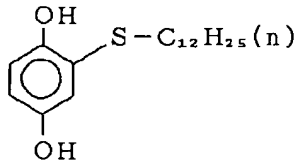


(II) −94

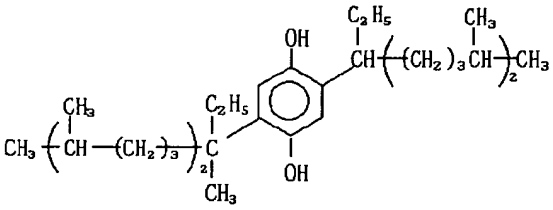


[Table 4-(14)]

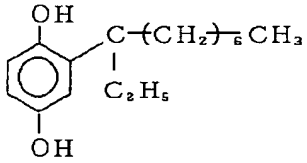
(II) −95



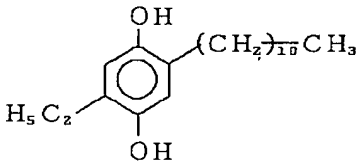
(II) −96



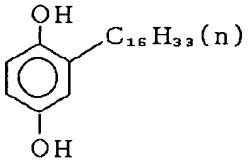
(II) −97



(II) −98



(II) −99



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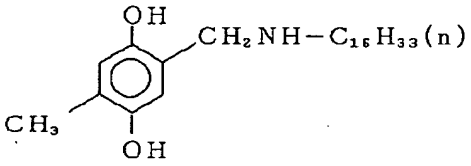
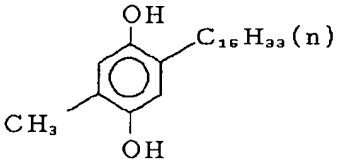
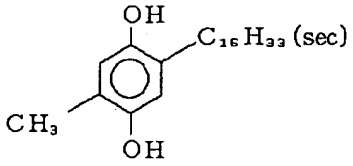


(II) −101

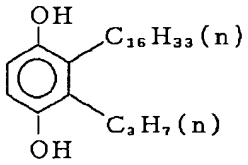


[Table 4-(15)]

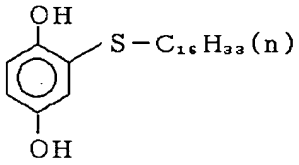
(II) −102



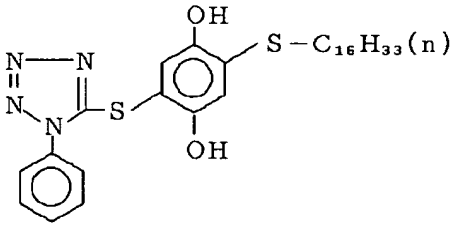
(II) −103



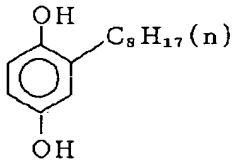
(II) −104



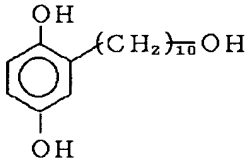
(II) −105



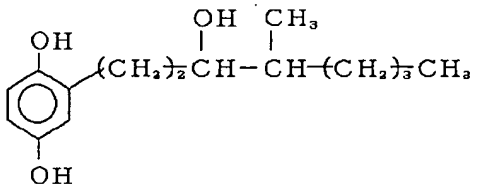
(II) −106



(II) −107

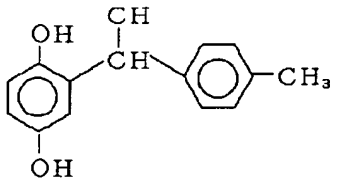


(II) −108

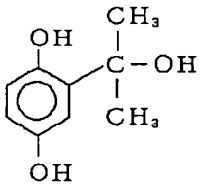


[Table 4-(16)]

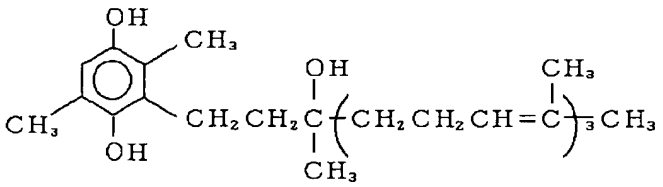
(II) −109



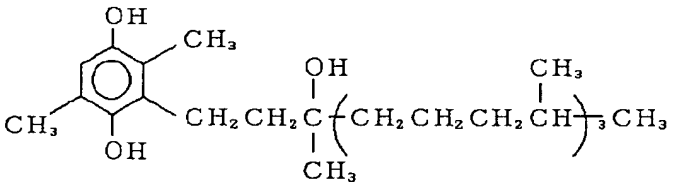
(II) −110



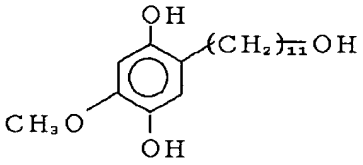
(II) −111



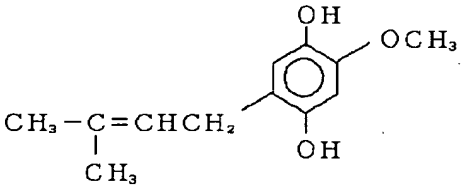
(II) −112



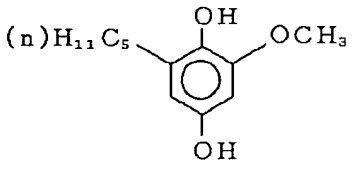
(II) −113



(II) −114

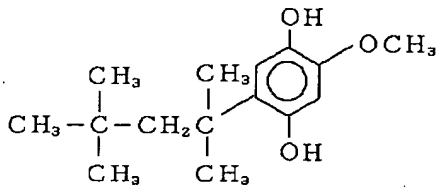


(II) −115

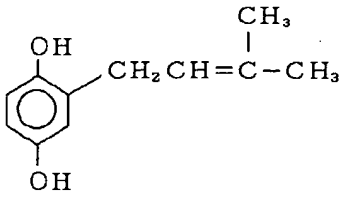


[Table 4-(17)]

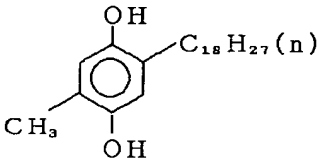
(II) −116



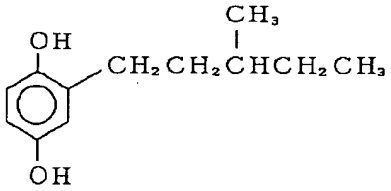
(II) −117



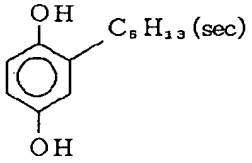
(II) −118



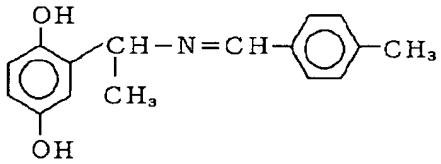
(II) −119



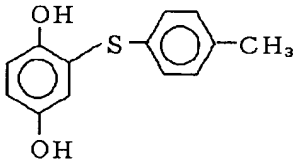
(II) −120



(II) −121

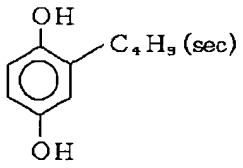


(II) −122

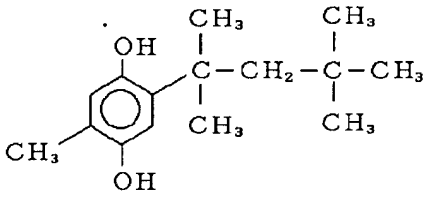


[Table 4-(18)]

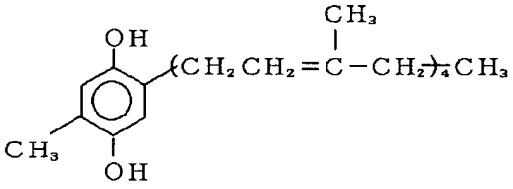
(II) −123



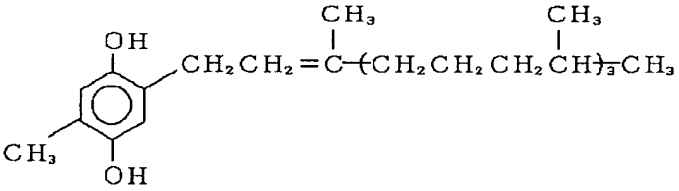
(II) −124



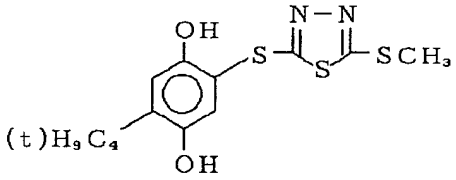
(II) −125



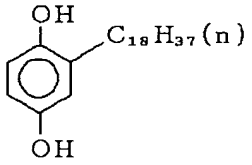
(II) −126



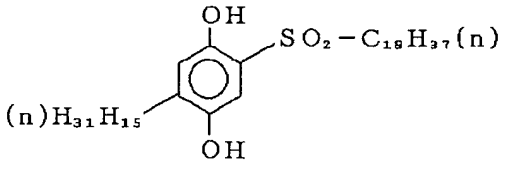
(II) −127



(II) −128

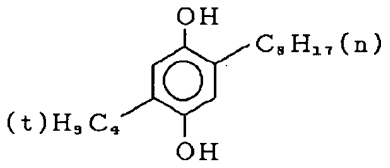


(II) −129

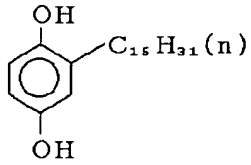


[Table 4-(19)]

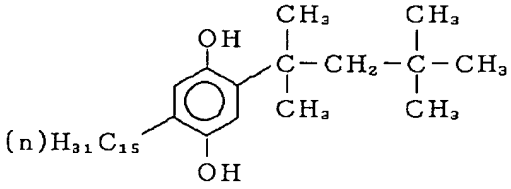
(II) −130



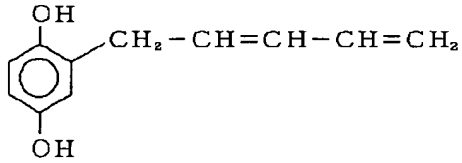
(II) −131



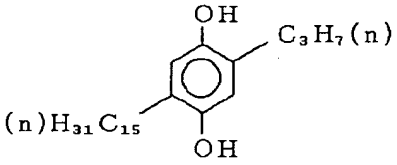
(II) −132



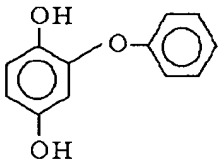
(II) −133



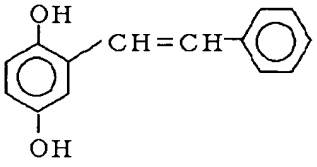
(II) −134



(II) −135

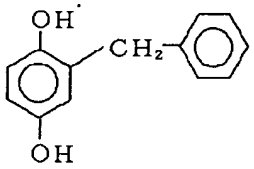


(II) −136

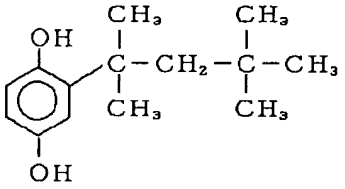


[Table 4-(20)]

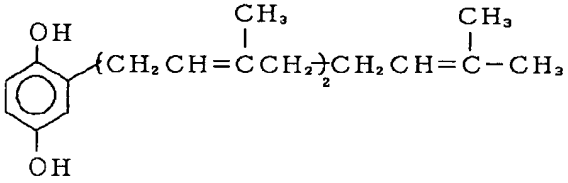
(II) −137



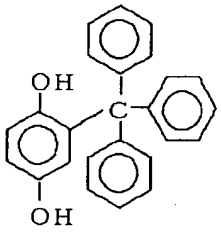
(II) −138



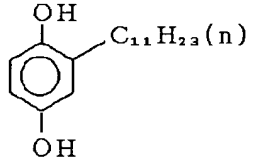
(II) −139



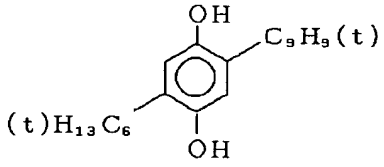
(II) −140



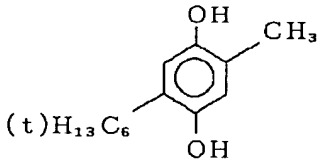
(II) −141



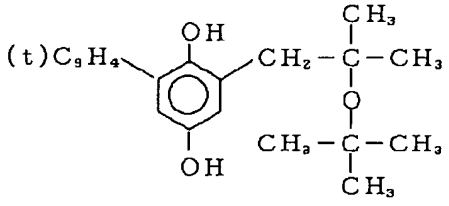
(II) −142



(II) −143

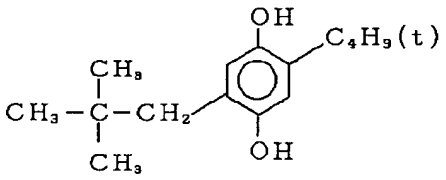


(II) −144

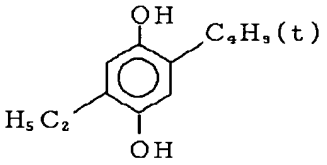


[Table 4-(21)]

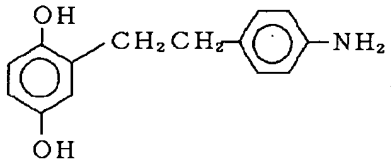
(II) −145



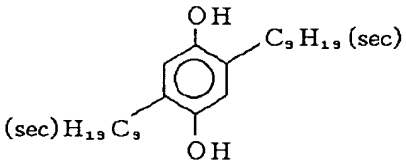
(II) −146



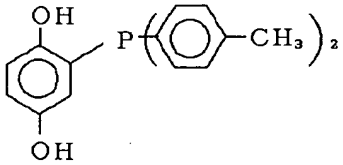
(II) −147



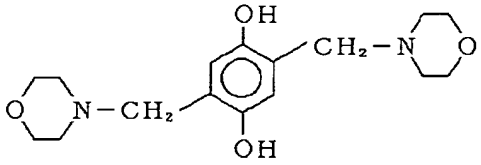
(II) −148



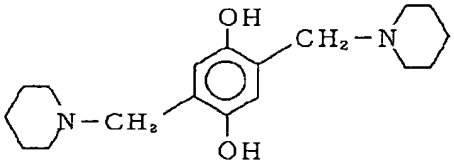
(II) −149



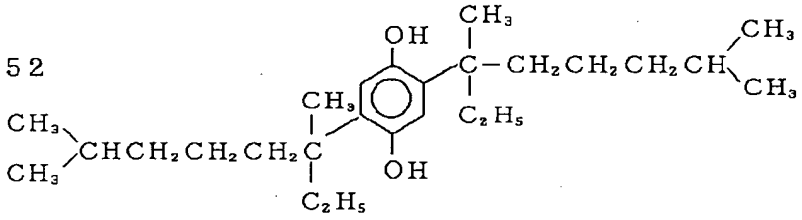
(II) −150



(II) −151

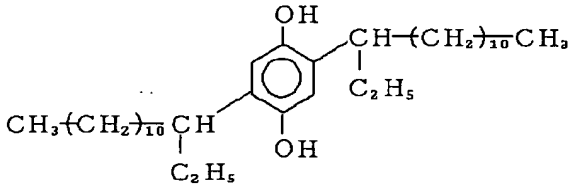


(II) −152

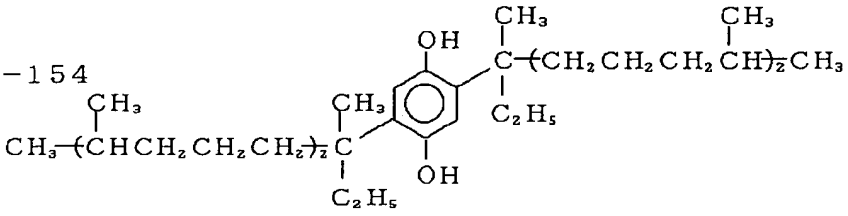


[Table 4-(22)]

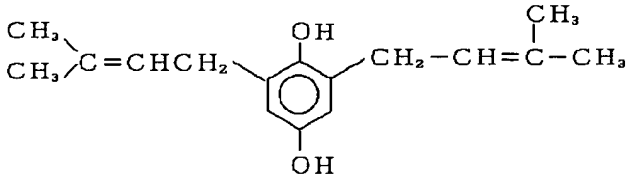
(II) −153



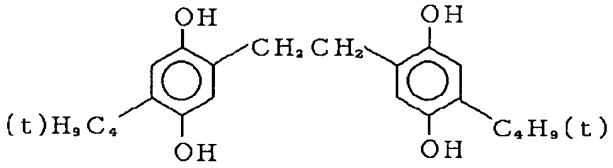
(II) −154



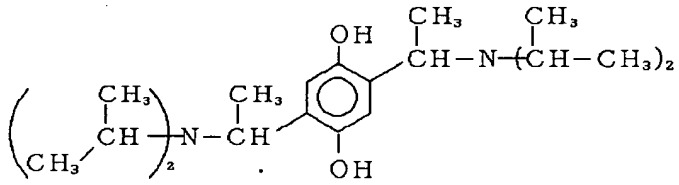
(II) −155



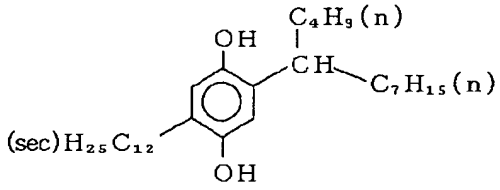
(II) −156



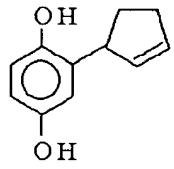
(II) −157



(II) −158

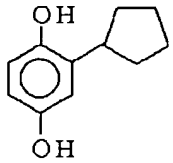


(II) −159

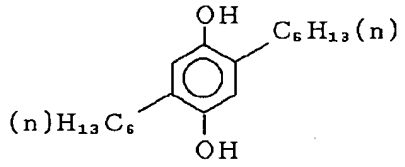


[Table 4-(23)]

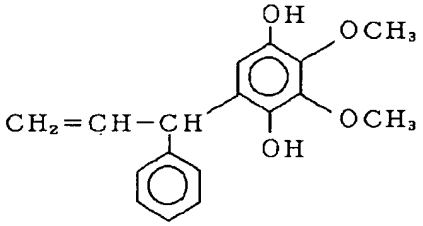
(II) −160



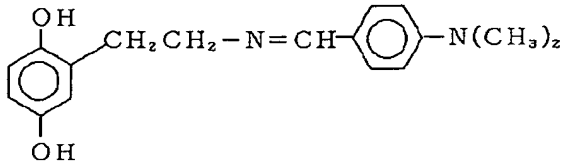
(II) −161



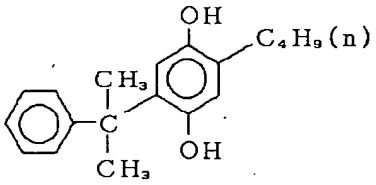
(II) −162



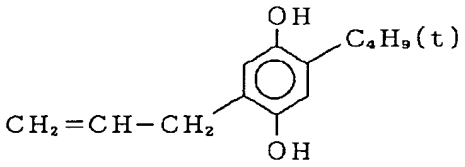
(II) −163



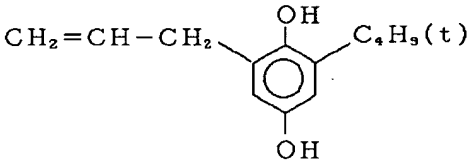
(II) −164



(II) −165

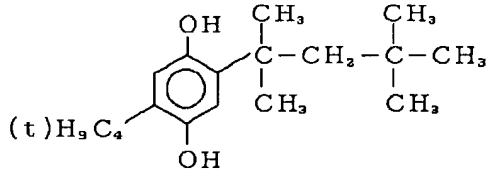


(II) −166

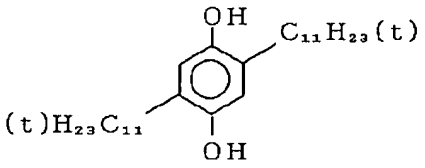


[Table 4-(24)]

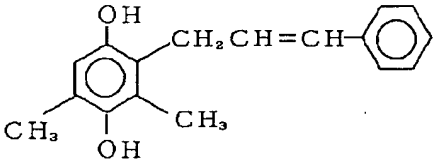
(II) −167



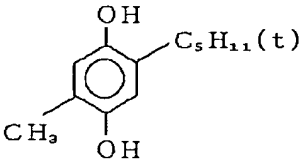
(II) −168



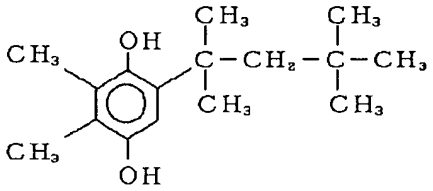
(II) −169



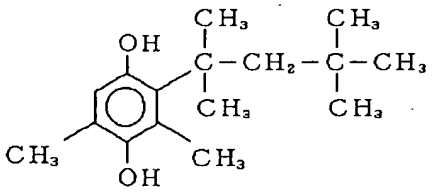
(II) −170



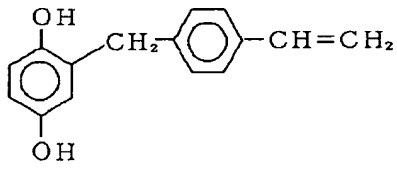
(II) −171



(II) −172

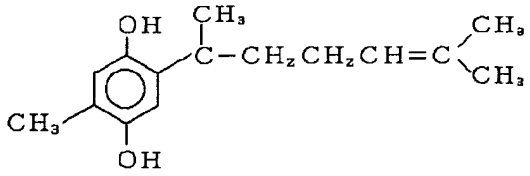


(II) −173

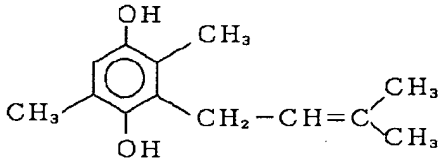


[Table 4-(25)]

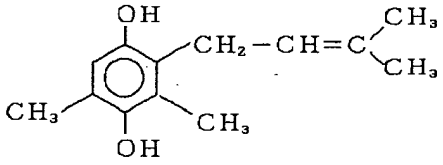
(II) −174



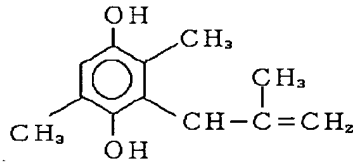
(II) −175



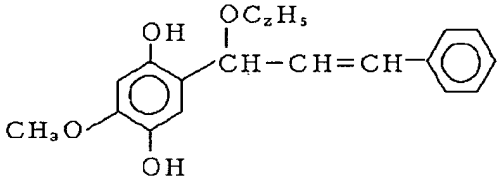
(II) −176



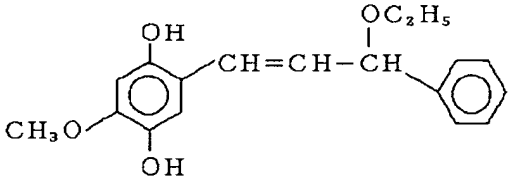
(II) −177



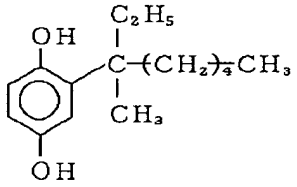
(II) −178



(II) −179

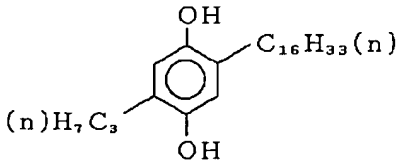


(II) −180

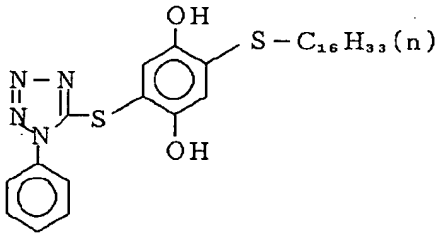


[Table 4-(26)]

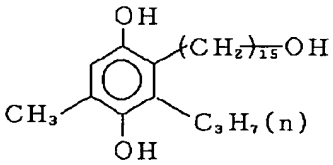
(II) −181



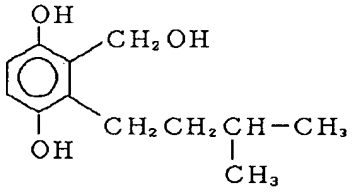
(II) −182



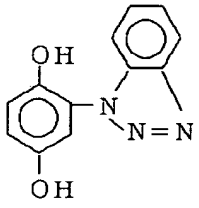
(II) −183



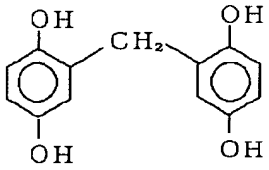
(II) −184



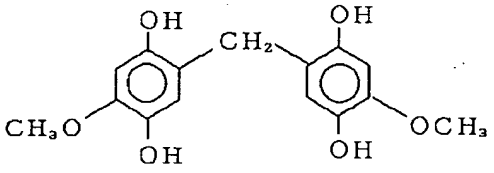
(II) −185



(II) −186

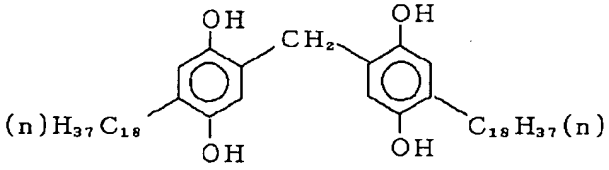


(II) −187

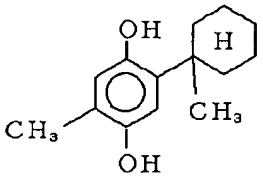


[Table 4-(27)]

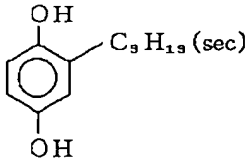
(II) −188



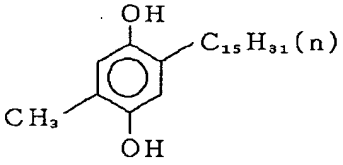
(II) −189



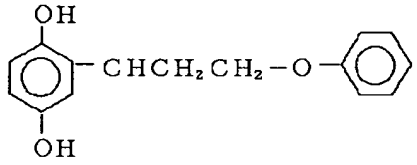
(II) −190



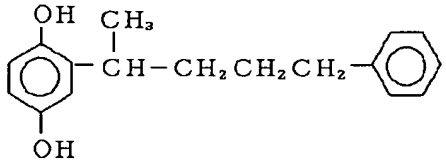
(II) −191



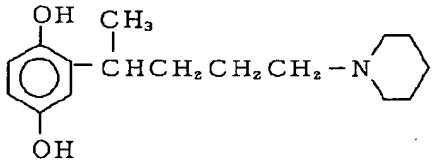
(II) −192



(II) −193

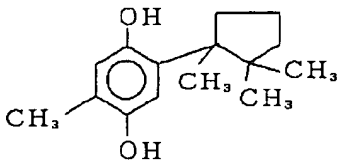


(II) −194

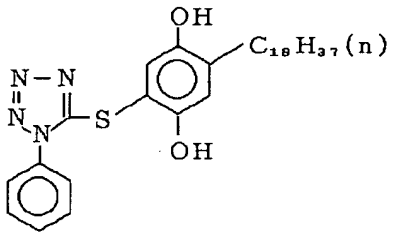


[Table 4-(28)]

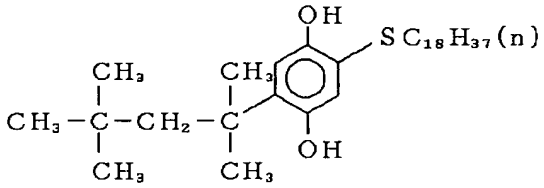
(II) −195



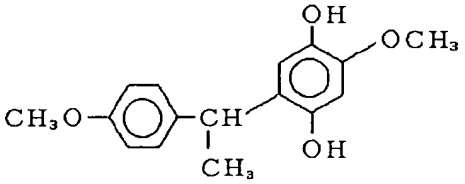
(II) −196



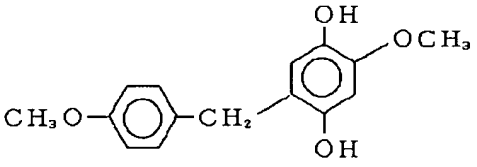
(II) −197



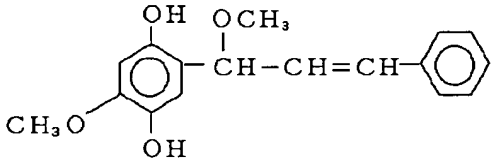
(II) −198



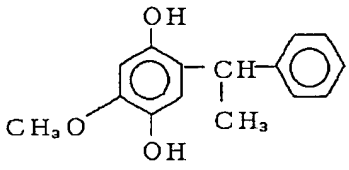
(II) −199



(II) −200

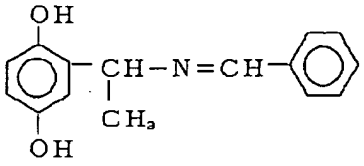


(II) −201

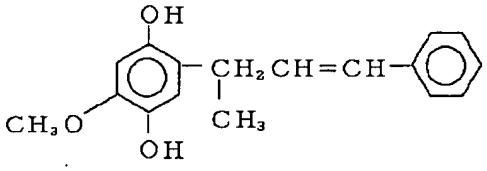


[Table 4-(29)]

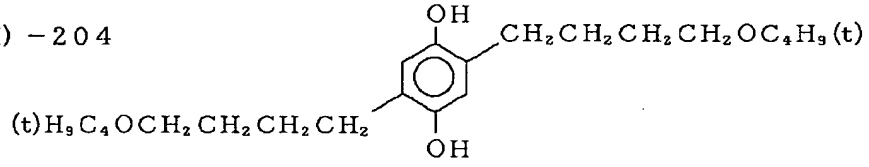
(II) −202



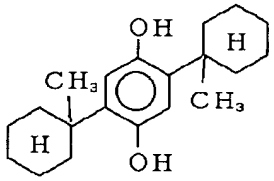
(II) −203



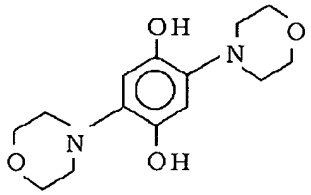
(II) −204



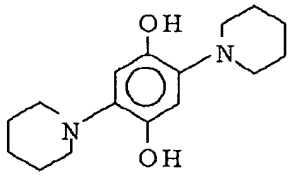
(II) −205



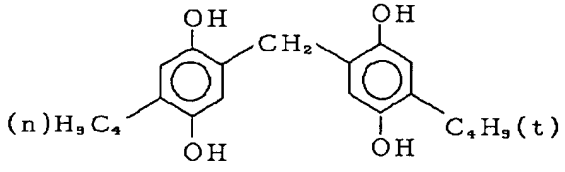
(II) −206



(II) −207

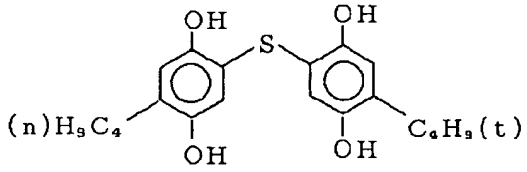


(II) −208

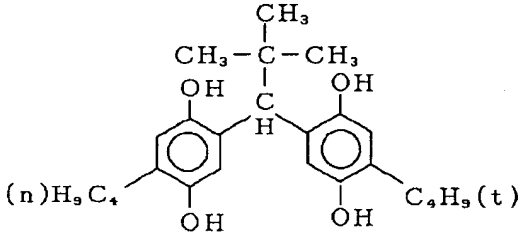


[Table 4-(30)]

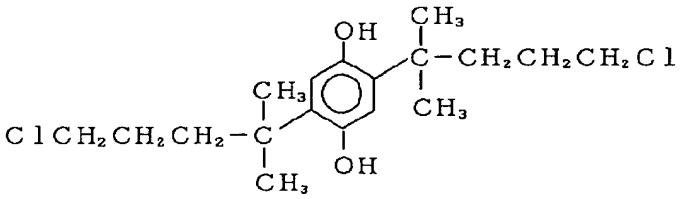
(II) −209



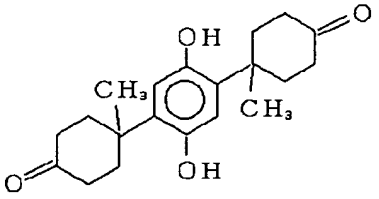
(II) −210



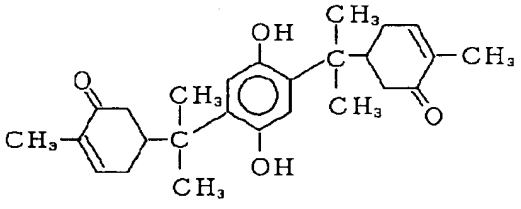
(II) −211



(II) −212

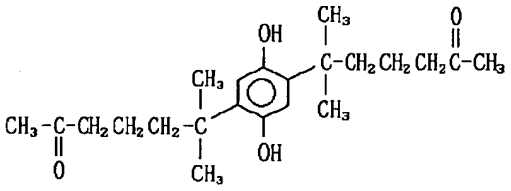


(II) −213

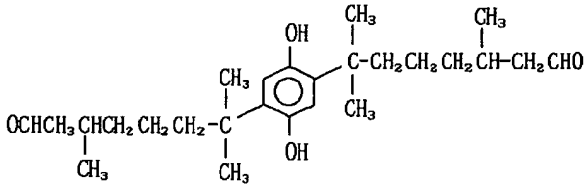


[Table 4-(31)]

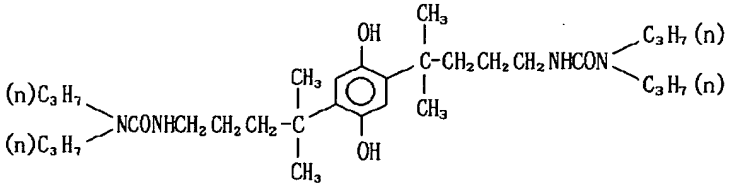
(II) －２１４



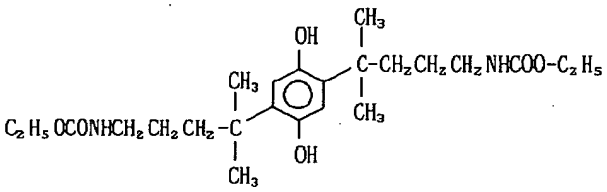
(II) －２１５



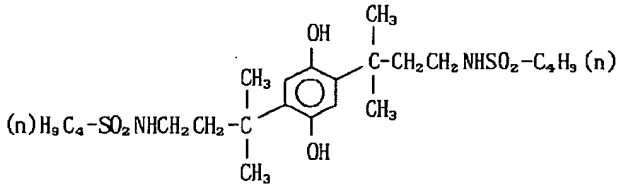
(II) －２１６



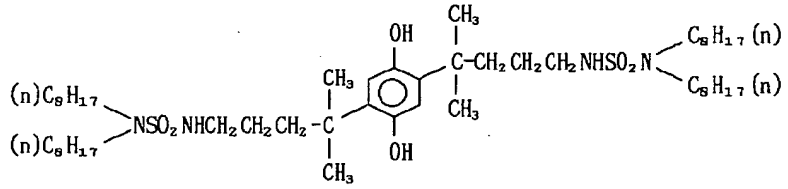
(II) －２１７



(II) －２１８

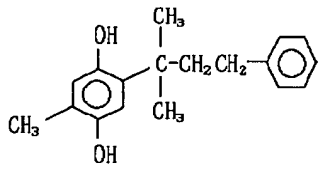


(II) －２１９

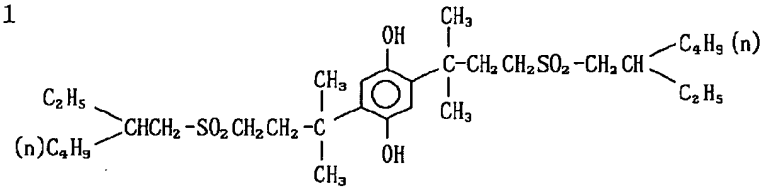


[Table 4-(32)]

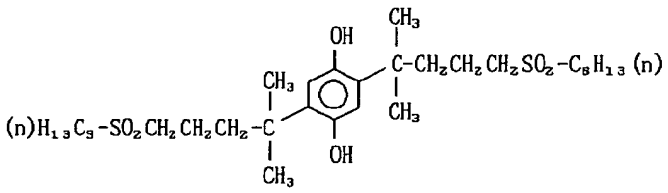
(II) －２２０



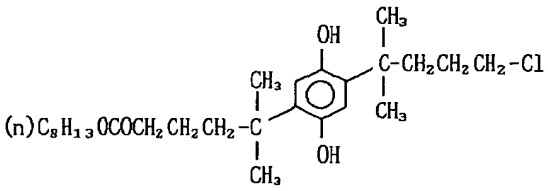
(II) －２２１



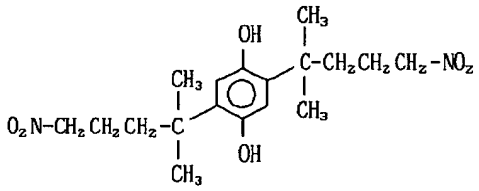
(II) －２２２



(II) －２２３

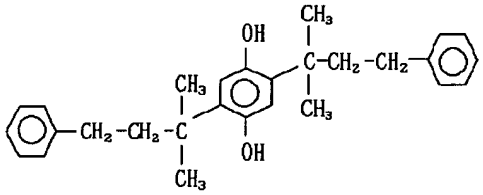


(II) －２２４

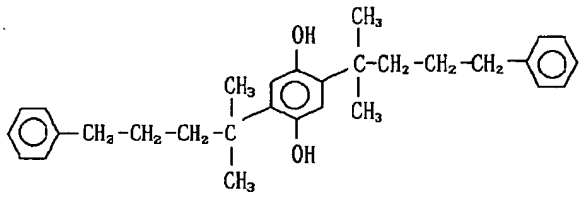


[The example of the compound of a general formula (III)]
[Table 5-(1)]

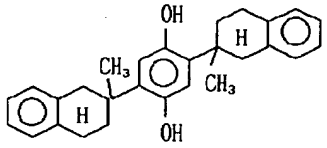
(Ⅲ) －1



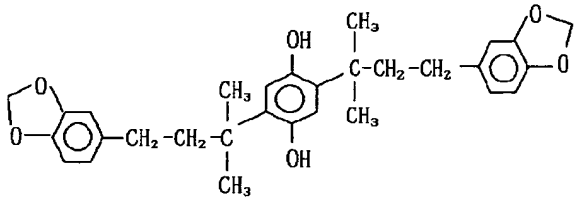
(Ⅲ) －2



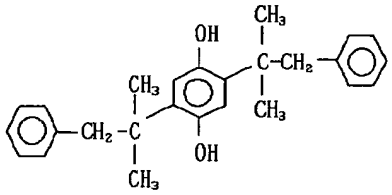
(Ⅲ) －3



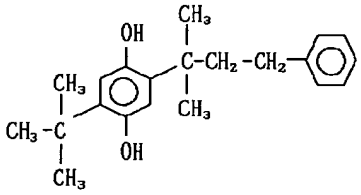
(Ⅲ) －4



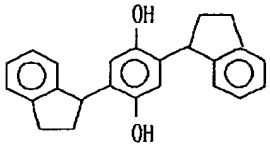
(Ⅲ) －5



(Ⅲ) －6

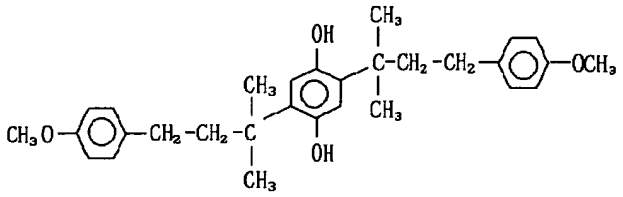


(Ⅲ) －7

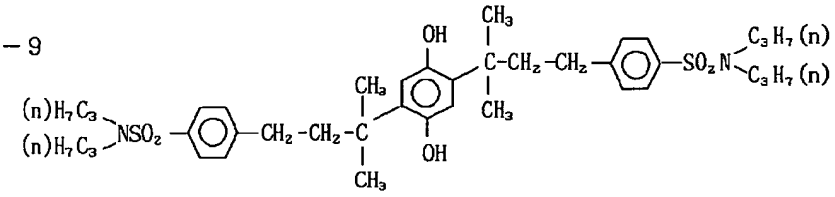


[Table 5-(2)]

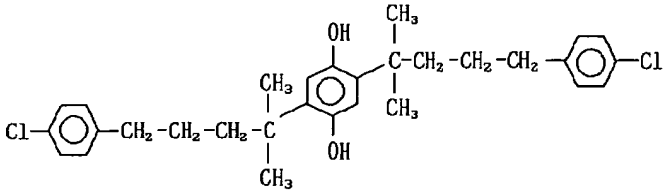
(Ⅲ) －8



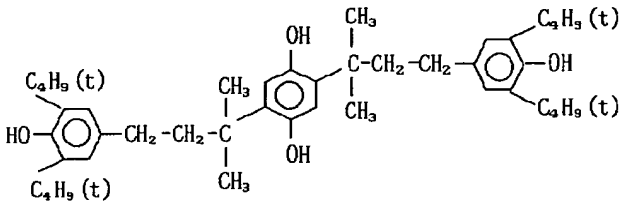
(Ⅲ) －9



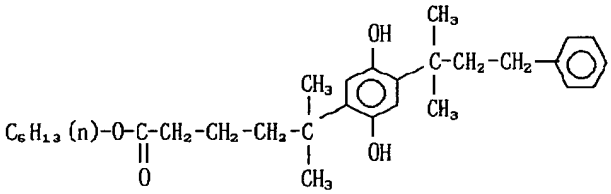
(Ⅲ) －10



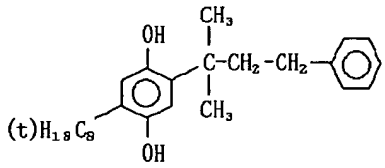
(Ⅲ) －11



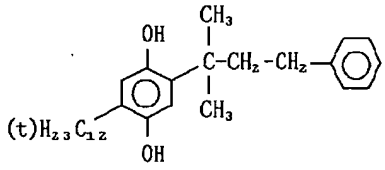
(Ⅲ) －12



(Ⅲ) －13

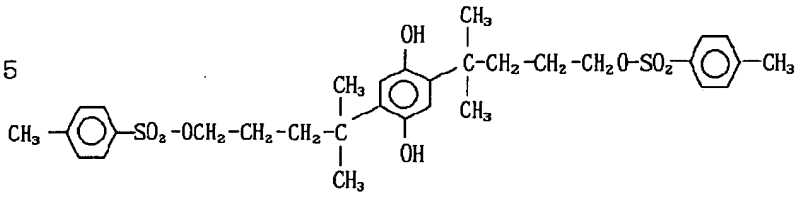


(Ⅲ) －14

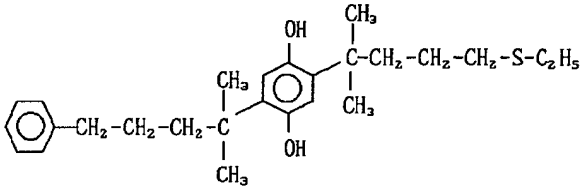


[Table 5-(3)]

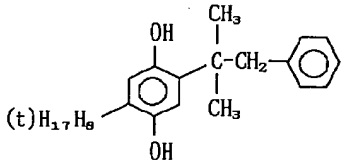
(Ⅲ)－15



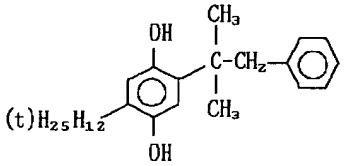
(Ⅲ)－16



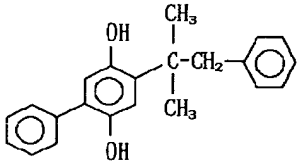
(Ⅲ)－17



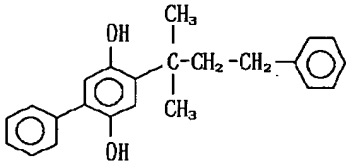
(Ⅲ)－18



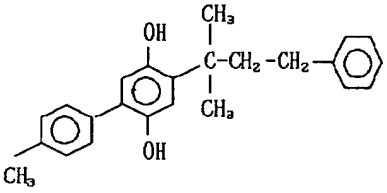
(Ⅲ)－19



(Ⅲ)－20

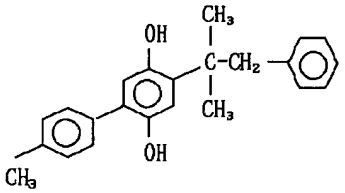


(Ⅲ)－21

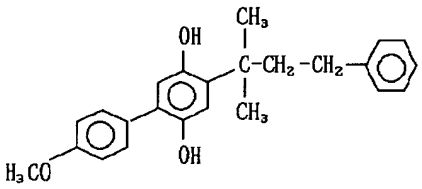


[Table 5-(4)]

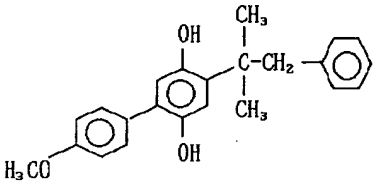
(Ⅲ) －２２



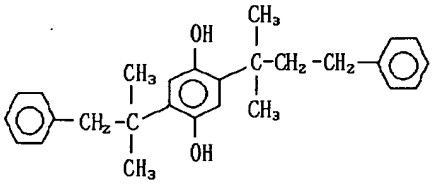
(Ⅲ) －２３



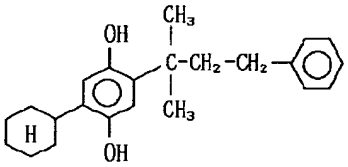
(Ⅲ) －２４



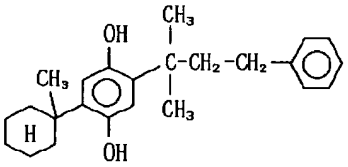
(Ⅲ) －２５



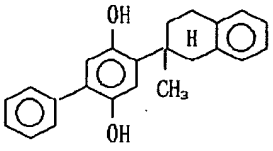
(Ⅲ) －２６



(Ⅲ) －２７

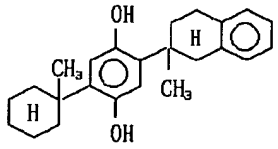


(Ⅲ) －２８

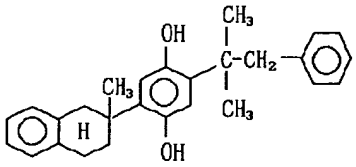


[Table 5-(5)]

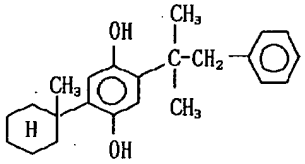
(Ⅲ) －２９



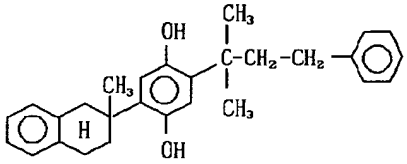
(Ⅲ) －３０



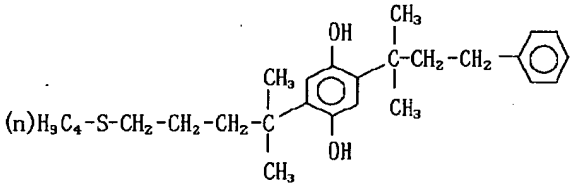
(Ⅲ) －３１



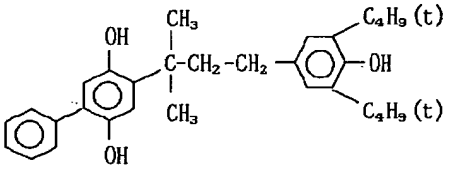
(Ⅲ) －３２



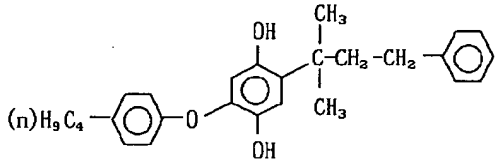
(Ⅲ) －３３



(Ⅲ) －３４

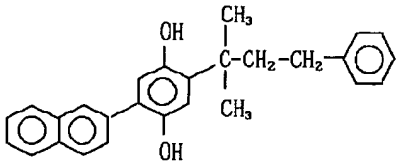


(Ⅲ) －３５

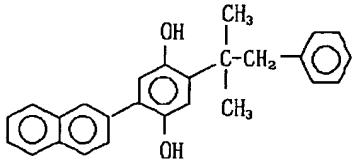


[Table 5-(6)]

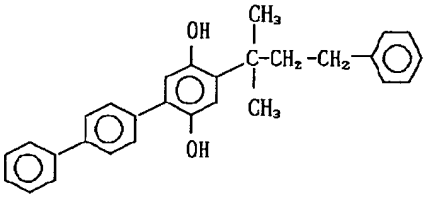
(Ⅲ) －３６



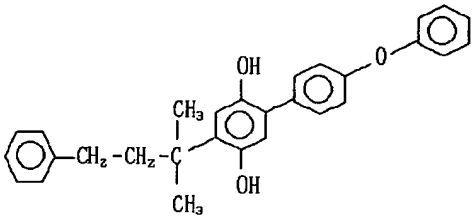
(Ⅲ) －３７



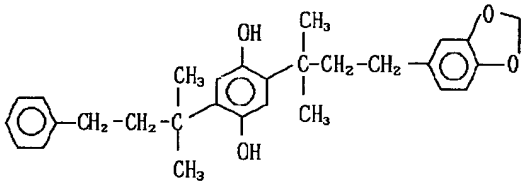
(Ⅲ) －３８



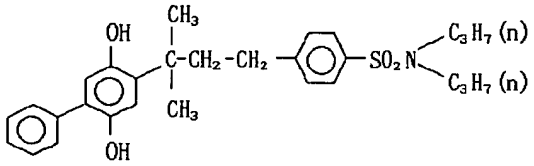
(Ⅲ) －３９



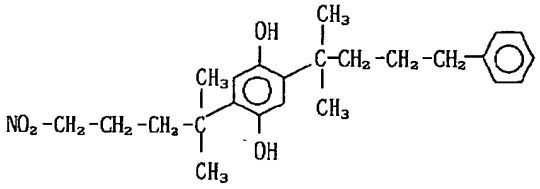
(Ⅲ) －４０



(Ⅲ) －４１

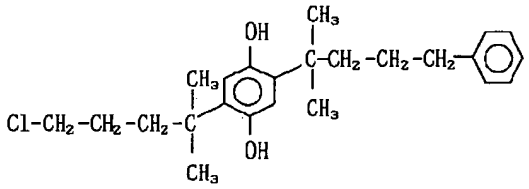


(Ⅲ) －４２

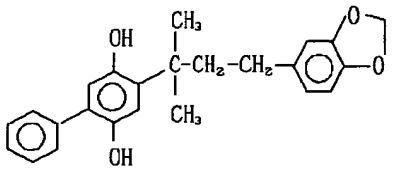


[Table 5-(7)]

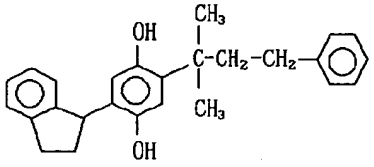
(Ⅲ) −43



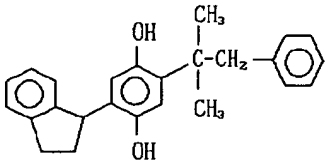
(Ⅲ) −44



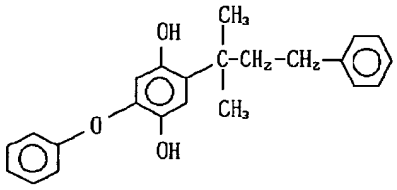
(Ⅲ) −45



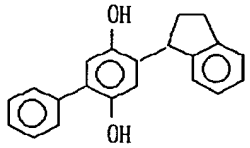
(Ⅲ) −46



(Ⅲ) −47

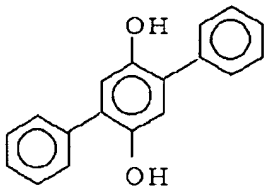


(Ⅲ) −48

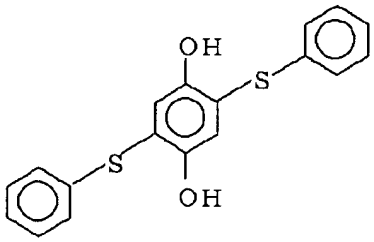


[The example of the compound of a general formula (IV)]
[Table 6-(1)]

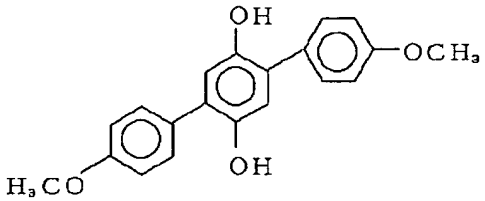
(Ⅳ) −1



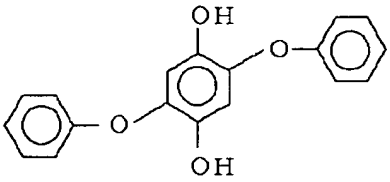
(Ⅳ) −2



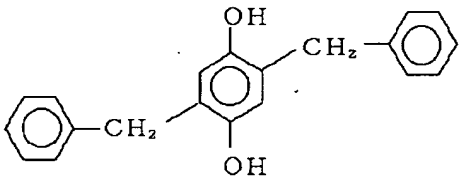
(Ⅳ) −3



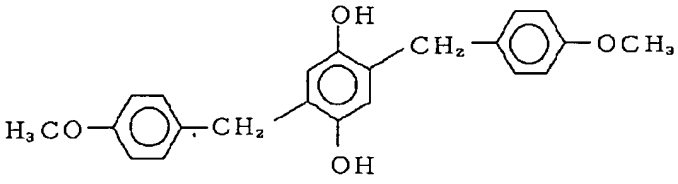
(Ⅳ) −4



(Ⅳ) −5

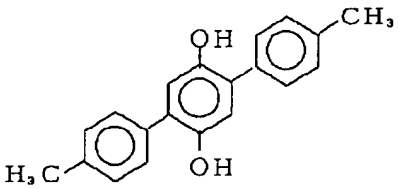


(Ⅳ) −6

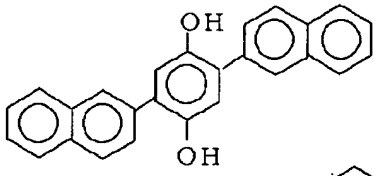


[Table 6-(2)]

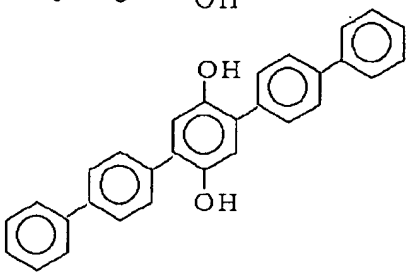
(Ⅳ) −7



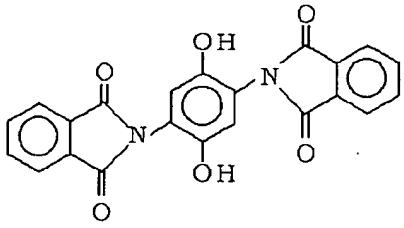
(Ⅳ) −8



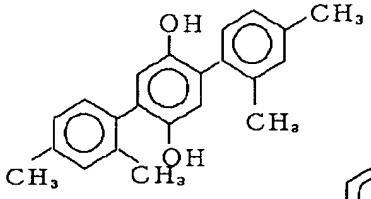
(Ⅳ) −9



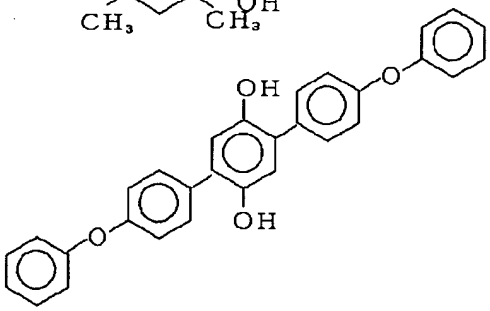
(Ⅳ) −10



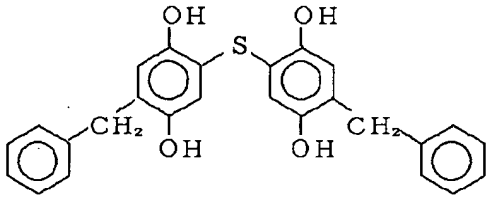
(Ⅳ) −11



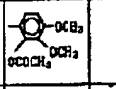
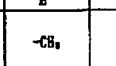
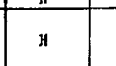
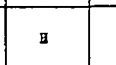
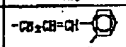
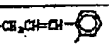
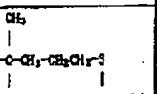
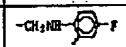
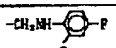
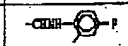
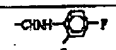
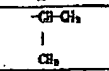
(Ⅳ) −12



(Ⅳ) −13



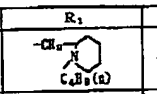
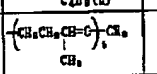
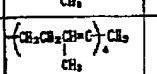
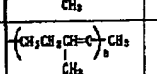
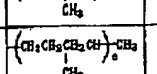
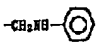
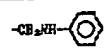
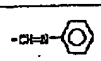
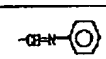
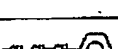
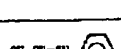
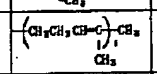
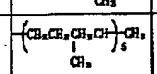
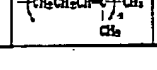
[The example of the compound of a general formula (V)]
[Table 7-(1)]

化合物No.	R_1	R_2	R_3	R_4	R_5	R_6	R_7	R_8
(V)−1	H	H		H	H	H	$-OCH_3$	$-OCH_3$
(V)−2	$-CH_2CH_2NH_2$	$-CH_3$	H	H	H	$-CH_3$	$-CH_3$	$-CH_3$
(V)−3			$-CH_3$	H	H	H	$-CH_2CH_2NH_2$	H
(V)−4	H	H	H	H	H	H	$-CH_2CH_2NH_2$	H
(V)−5	$-CH_2CH_2NH_2$	$-CH_3$	H	H	H	$-CH_3$	$-CH_3$	$-CH_3$
(V)−6		$-CH_3$	H	H	H	$-CH_2CH_2NH_2$	$-CH_3$	$-CH_3$
(V)−7		$-CH_3$	H	H	H	$-CH_3$	$-CH_2CH_2NH_2$	$-CH_3$
(V)−8		$-CH_3$	H	H	H	$-CH_2CH_2NH_2$	$-CH_2CH_2NH_2$	$-CH_3$
(V)−9	$-CH_2CH_2F$	$-CH_3$	H	H	H	$-CH_3$	$-CH_3$	$-CH_3$
(V)−10	H	H	H	H	H		H	H
(V)−11	H	H	H	H	H	H		H
(V)−12	$-CH_3$	$-CH_3$	H	$-CH_3$	$-CH_3$	H		H
(V)−13	$-CH_2CH_2Cl$	$-CH_3$	H	H	H	$-CH_3$	$-CH_3$	$-CH_3$
(V)−14		$-CH_3$	H	H	H	H	H	H
(V)−15	H	H	H	H	H		H	H
(V)−16	H	H	H	H	H	H		H
(V)−17	H	H	H	H	H		H	H
(V)−18	H	H	H	H	H	H		H
(V)−19	$-CH_3$	$-CH_3$	H	H	H	$-OCH_3$	$-OCH_3$	H
(V)−20	$-CH_3$	$-CH_3$	H	H	H	H	H	H
(V)−21	$-CH_3$	$-CH_3$	H	H	H			H
(V)−22	$-CH_3$	$-CH_3$	H		H	H	H	H
(V)−23	$-CH_3$	$-CH_3$	H		H	H	$-C_8H_{17}(n)$	H

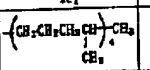
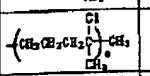
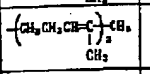
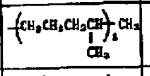
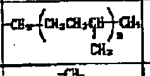
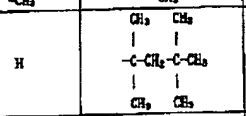
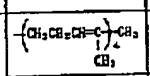
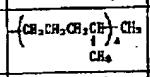
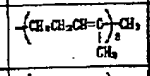
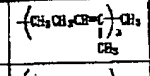
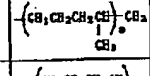
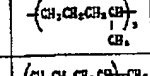
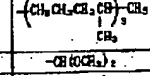
[Table 7-(2)]

化合物No.	R_1	R_2	R_3	R_4	R_5	R_6	R_7	R_8
(V)-24	$-CH_3$	$-CH_3$	H	$-CH-CH_3$ CH_3	H	H	CH_3 CH_3 $-C-CH_2-C-CH_3$ CH_3 CH_3	H
(V)-25	$-(CH_2CH_2CH=C(CH_3)-O)_4-CH_3$ CH_3	$-CH_3$	H	H	H	$-CH_3$	H	H
(V)-26	$-(CH_2CH_2CH=C(CH_3)-O)_4-CH_3$ CH_3	$-CH_3$	H	H	H	H	$-CH_3$	H
(V)-27	$-(CH_2CH_2CH=C(CH_3)-O)_4-CH_3$ CH_3	$-CH_3$	H	H	H	H	H	$-CH_3$
(V)-28	$-(CH_2CH_2CH=C(CH_3)-O)_4-CH_3$ CH_3	$-CH_3$	H	H	H	H	$-CH_3$	H
(V)-29	$-(CH_2CH_2CH=C(CH_3)-O)_4-CH_3$ CH_3	$-CH_3$	H	H	H	$-CH_3$	H	H
(V)-30	$-(CH_2CH_2CH=C(CH_3)-O)_8-CH_3$ CH_3	$-CH_3$	H	H	H	H	$-CH_3$	H
(V)-31	H	H		H	H	H	$-OCH_3$	$-OCH_3$
(V)-32	$-CH_2CH_2CH=C-CH_2CH_3$ CH_3	$-CH_3$	H	H	H	$-CH_3$	$-CH_3$	$-CH_3$
(V)-33	H	H	H	H	H		H	H
(V)-34	H	H	H	H	H	H		H
(V)-35	H	H	H	H	H		H	H
(V)-36	H	H	H	H	H	H		H
(V)-37	H	H	H	H	H		H	H
(V)-38	$-CH_3$	$-CH_3$	H	H	H	H	$-OCH_3$	H
(V)-39	H	H		H	H	H	$-OCH_3$	H
(V)-40	H	H		H	H	H	$-OCH_3$	H
(V)-41	$-OCH_3$	$-CH_3$	H	H	H	$-CH_3$	$-CH_3$	$-CH$
(V)-42	$-CH_2CH_2CH=C-CH_3$ CH_3	$-CH_3$	H	H	H	H	H	H
(V)-43		$-CH_3$	H	H	H	H	H	H

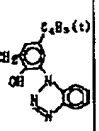
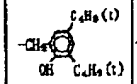
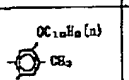
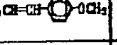
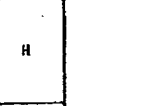
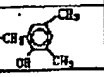
[Table 7-(3)]

化合物No.	R_1	R_2	R_3	R_4	R_5	R_6	R_7	R_8
(V)-44		$-CH_3$	H	H	H	H	H	H
(V)-45		$-CH_3$	H	H	H	H	H	H
(V)-46		$-CH_3$	H	H	H	H	H	H
(V)-47		$-CH_3$	H	H	H	H	H	H
(V)-48		$-CH_3$	H	H	H	H	H	H
(V)-49	$-CH_3$	$-CH_3$	H	H	H	$-CH_3$	$-CH_3$	$-CH_3$
(V)-50	H	H	H	$-CH_3$	$-CH_3$	$-CH_3$	$-CH_3$	$-CH_3$
(V)-51	H	H		H	H	H	H	H
(V)-52	H	H	H	H	H		H	H
(V)-53	H	H	H	H	H	H		H
(V)-54	H	H	H	H	H		H	H
(V)-55	H	H	H	H	H	H		H
(V)-56	H	H	H	H	H	H	H	
(V)-57	H	H	H	H	H		H	H
(V)-58	H	H	H	H	H	H		H
(V)-59	H	H	H		H	H	H	H
(V)-60	$-CH_3$	$-CH_3$	H	$-CH_3$	H	H	$-CH_3$	H
(V)-61	$-CH_3$	$-CH_3$	H	H	H	$-CH_3$	$-CH_3$	H
(V)-62	$-CH_3$	$-CH_3$	H	H	H	$-CH_3$	H	$-CH_3$
(V)-63	$-CH_3$	$-CH_3$	H	H	H	H	$-CH_3$	$-CH_3$
(V)-64	$-CH_3$	H	H	H	H	$-CH_3$	$-CH_3$	$-CH_3$
(V)-65		$-CH_3$	H	H	H	$-CH_3$	$-CH_3$	$-CH_3$
(V)-66		$-CH_3$	H	H	H	$-CH_3$	$-CH_3$	$-CH_3$
(V)-67	$-C_6H_7(n)$	$-CH_3$	H	H	H	$-CH_3$	$-CH_3$	$-CH_3$
(V)-68		$-CH_3$	H	H	H	$-CH_3$	$-CH_3$	$-CH_3$

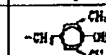
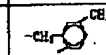
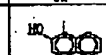
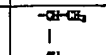
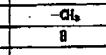
[Table 7-(4)]

化合物No.	R_1	R_2	R_3	R_4	R_5	R_6	R_7	R_8
(V)−69		$-CH_3$	H	H	H	$-CH_3$	$-CH_3$	$-CH_3$
(V)−70		$-CH_3$	H	H	H	$-CH_3$	$-CH_3$	$-CH_3$
(V)−71		$-CH_3$	H	H	H	$-CH_3$	$-CH_3$	$-CH_3$
(V)−72		$-CH_3$	H	H	H	$-CH_3$	$-CH_3$	$-CH_3$
(V)−73		$-CH_3$	H	H	H	$-CH_3$	$-CH_3$	$-CH_3$
(V)−74	$-CH_3$	$-CH_3$	$-CH_3$	H	H	H	H	H
(V)−75	$-CH_3$	H	H	H	H	$-CH_3$	$-CH_3$	H
(V)−76	H	H	H	H	H	$-CH_3$	$-CH_3$	$-CH_3$
(V)−77	$-CH_3$	$-CH_3$	H	$-CH_3$	H	H		H
(V)−78		$-CH_3$	H	H	H	H	$-CH_3$	$-CH_3$
(V)−79		$-CH_3$	H	H	H	H	$-CH_3$	$-CH_3$
(V)−80		$-CH_3$	H	H	H	H	$-CH_3$	$-CH_3$
(V)−81		$-CH_3$	H	H	H	$-CH_3$	H	$-CH_3$
(V)−82		$-CH_3$	H	H	H	$-CH_3$	H	$-CH_3$
(V)−83		$-CH_3$	H	H	H	$-CH_3$	$-CH_3$	H
(V)−84		$-CH_3$	H	H	H	H	$-CH_3$	$-CH_3$
(V)−85	$-CH(OCH_3)_2$	$-CH_3$	H	H	H	$-CH_3$	$-CH_3$	$-CH_3$
(V)−86	$-CH(OCH_3)_2$	H	H	H	H	$-CH_3$	$-CH_3$	$-CH_3$
(V)−87	$-CH_2CH_2CH_2N(CH_3)_2$	$-CH_3$	H	H	H	H	H	H
(V)−88	$-CH_2CH_2CH_2N(CH_3)_2$		H	H	H	H	H	H
(V)−89	$-CH_2CH_2OCH(CH_3)_2$	$-CH_3$	H	H	H	$-CH_3$	$-CH_3$	$-CH_3$
(V)−90	$-CH_3$	$-CH_3$	H	H	H	H	$-C_3H_9(i)$	H
(V)−91	$-CH_3$	$-CH_3$	H	$-CH-CH_3$ | CH_3	H	H	$-C_4H_9(i)$	H
(V)−92	$-C_6H_{17}(n)$	$-CH_3$	H	$-CH-CH_3$ | CH_3	H	H	$-C_4H_9(i)$	H

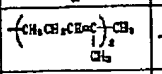
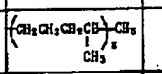
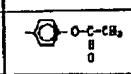
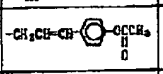
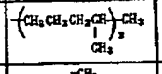
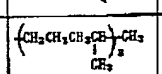
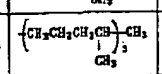
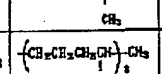
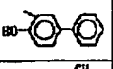
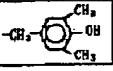
[Table 7-(5)]

化合物No.	R_1	R_2	R_3	R_4	R_5	R_6	R_7	R_8
(V)—93	$-C_8H_{17}(n)$	$-CH_3$	H	H	H	H	$-C_4H_9(t)$	H
(V)—94	$-CH_3$	$-CH_3$	H	$-CH_3$	H	H	$-C_4H_9(t)$	H
(V)—95	$-CH_3$	$-CH_3$	H	H	H	$-CH_3$	$-C_4H_9(t)$	H
(V)—96	$-(CH_2CH_2CH=C(CH_3))_n-CH_3$	$-CH_3$	H	H	H	H	H	H
(V)—97	$-(CH_2CH_2CH=C(CH_3))_2-CH_3$	$-C_2H_5$	H	H	H	$-CH_3$	$-CH_3$	$-CH_3$
(V)—98	$-(CH_2CH_2CH_2CH(CH_3))_2-CH_3$	$-C_2H_5$	H	H	H	$-CH_3$	$-CH_3$	$-CH_3$
(V)—99	$-CH=CH_2$	$-CH_3$	H	H	H	$-CH_3$	$-CH_3$	$-CH_3$
(V)—100	$-C_2H_5$	$-CH_3$	H	H	H	$-CH_3$	$-CH_3$	$-CH_3$
(V)—101	$-C_4H_9$	H	H	H	H	$-CH_3$	$-CH_3$	$-CH_3$
(V)—102	$-C_{18}H_{37}(n)$	$-CH_3$	H	H	H	$-CH_3$	$-CH_3$	$-CH_3$
(V)—103 (V)—104	$-CH_3$	$-CH_3$	H	H		H	$-CH_3$	$-CH_3$
(V)—105	$-(CH_2CH_2CH_2CH(CH_3))_2-CH_3$	$-CH_3$	H	H	H	$-C_4H_9(t)$	$-C_4H_9(t)$	H
(V)—106	$-CH_3$	$-CH_3$	H	H	H		$-CH_3$	$-CH_3$
(V)—107		$-CH_3$	H	$-CH_3$	$-CH_3$	H	H	H
(V)—108	$-CH_3$	$-CH_3$	H	H	H	$-CH_3$	$-CH_2Cl$	$-CH_3$
(V)—109		H	$-CH=CH-$ 	$-CH_3$	H	H	$-OCH_3$	H
(V)—110	$-CH_3$	$-CH_3$	H	$-CH(CH_3)_2$	H	H	$-S-C_{18}H_{37}(n)$	H
(V)—111	$-CH_3$	$-CH_3$	H	H	H	H		H
(V)—112	$-(CH_2CH_2CH=C(CH_3))_2-CH_3$	$-CH_3$	H	H	H	H	H	$-CH_3$
(V)—113	$-(CH_2CH_2CH_2CH(CH_3))_2-CH_3$	$-CH_3$	H	H	H	H	H	$-CH_3$
(V)—114	$-CH_3$	$-CH_3$	H	H	H		$-CH_3$	$-CH_3$

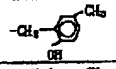
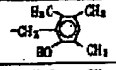
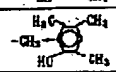
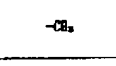
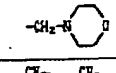
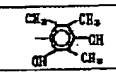
[Table 7-(6)]

化合物No.	R_1	R_2	R_3	R_4	R_6	R_6	R_7	R_8
(V)−115			H	H	H			
(V)−116			H	H	H			
(V)−117			H	H	H			
(V)−118		H	H	H	H	H		H
(V)−119			H	H	H	H	H	H
(V)−120			H	H	H			H
(V)−121		H	H	H	H	H		H
(V)−122		H	H	H	H			
(V)−123			H	H		H	H	
(V)−124			H	H	H	H		H
(V)−125		H			H		H	
(V)−126			H	H	H	H		
(V)−127			H	H	H			
(V)−128			H	H	H			
(V)−129			H	H	H			
(V)−130			H	H	H			
(V)−131			H	H	H	H	H	
(V)−132			H		H	H		H
(V)−133			H		H		H	H
(V)−134			H		H	H		H
(V)−135		H	H	H	H			
(V)−136		H		H	H			H
(V)−137			H	H	H		H	H
(V)−138			H	H	H	H		H
(V)−139			H	H	H	H		H
(V)−140			H	H	H			H

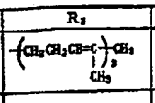
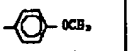
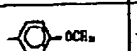
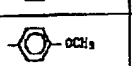
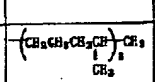
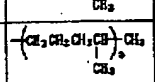
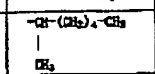
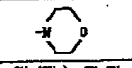
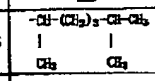
[Table 7-(7)]

化合物No.	R_1	R_2	R_3	R_4	R_5	R_6	R_7	R_8
(V)−141	H	H	$-OC_2H_5$	$-CH_3$	$-CH_3$	H	$-C_4H_9(t)$	H
(V)−142		$-CH_3$	H	H	H	$-CH_3$	$-CH_3$	$-CH_3$
(V)−143	$-CH_3$	H	H		H	$-CH_3$	$-CH_3$	$-CH_3$
(V)−144	$-OC_2H_5$	$-CH_3$	H	H	H	$-CH_3$	$-CH_3$	$-CH_3$
(V)−145	$-CH_3$	$-CH_3$	H	H	H	$-CH_2OC_2H_5$	$-CH_3$	$-CH_3$
(V)−146	$-OCH_3$	$-C_6H_5$	H	H	H	$-CH_3$	$-CH_3$	$-CH_3$
(V)−147	H	H		$-OCH_3$	H	H	$-OCH_3$	H
(V)−148		H		H	H	H	$-OCH_3$	H
(V)−149		H	$-C_3H_7(n)$	H	H	H	H	H
(V)−150		H	$-OC_2H_5$	H	H	H	H	H
(V)−151		$-CH_3$	H	H	H	$-CH_2N(CH_3)_2$	$-CH_2N(CH_3)_2$	$-CH_3$
(V)−152	$-CH_3$	$-CH_3$	H	H	H	$-CH_2Cl$	$-CH_3$	$-CH_3$
(V)−153		$-CH_3$	H	H	H	$-CH_3$	$-CH_3$	$-CH_3$
(V)−154		$-CH_3$	H	H	H	$-C_2H_5$	$-C_2H_5$	$-CH_3$
(V)−155		$-CH_3$	H	H	H	$-CH_3$	$-OCH_3$	$-OCH_3$
(V)−156	$-CH_3$	$-CH_3$	H	H	H	$-CH_3$	$-OCH_3$	$-OCH_3$
(V)−157	$-CH_2CH_2CH=C-CH_3$ CH_3	$-CH_3$	H	H	H	$-CH_3$	H	$-C-CH_3$ CH_3
(V)−158		$-CH_3$	H	H	H	$-CH_3$	H	$-C-CH_3$ CH_3
(V)−159	$-CH_3$	$-CH_3$	H	H	H	H		H
(V)−160	$-CH_3$	$-CH_3$	H	H	H	H	$-C_6H_{13}(n)$	H
(V)−161	$-CH_3$	$-CH_3$	H	H	H	H	H	$-C_6H_{13}(n)$
(V)−162	$-CH_3$	$-CH_3$	H	H	H	H		H
(V)−163	H	H		H	H	$-OCH_3$	$-OCH_3$	H
(V)−164	$-CH_3$	$-CH_3$	H	H	H		$-CH_3$	$-CH_3$
(V)−165	$-C_2H_7(n)$	$-CH_3$	H	H	H		$-CH_3$	$-CH_3$

[Table 7-(8)]

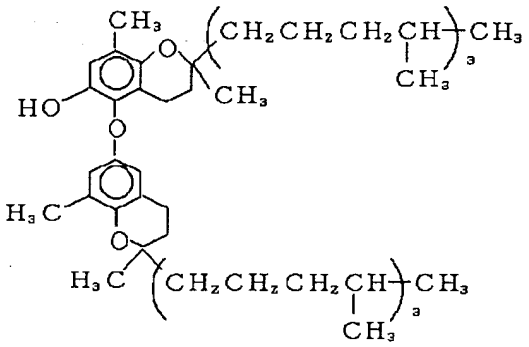
化合物No.	R_1	R_2	R_3	R_4	R_5	R_6	R_7	R_8
(V)−166		$-CH_3$	H	H	H		$-CH_3$	$-CH_3$
(V)−167	$-CH_3$	$-CH_3$	H	H	H		$-CH_3$	$-CH_3$
(V)−168	$-C_3H_7(n)$	$-CH_3$	H	H	H		$-CH_3$	$-CH_3$
(V)−169	$-OCH_3$	H	H	$-CH_3$	$-CH_3$	$-CH_2OCH_3$	$-CH_3$	$-CH_3$
(V)−170	$-CH_3$	$-CH_3$	H	H	H	$-CH_2OCH_3$	$-CH_3$	$-CH_3$
(V)−171		H	$-CH-CH_3$ | CH_3	H	H	H	H	H
(V)−172		H	$-C_3H_7(n)$	H	H	H	H	H
(V)−173	$-CH_3$	$-OCH_3$	H	H	H	H	$-CH_3$	$-CH_3$
(V)−174	$-CH_3$	H	H	H	H	H	H	H
(V)−175	$-CH_2CH_2CH=C-CH_3$ | CH_3	$-CH_3$	H	H	H	$-CH_3$	$-CH_3$	$-CH_3$
(V)−176		$-CH_3$	H	H	H	$-CH_3$	$-CH_3$	$-CH_3$
(V)−177		$-CH_3$	H	H	H	$-CH_3$	$-CH_3$	$-CH_3$
(V)−178	$-CH_3$	$-CH_3$	H	H	H	$-CH_3$	H	H
(V)−179	$-CH_3$	$-CH_3$	H	H	H	H	$-CH_3$	H
(V)−180		$-CH_3$	H	H	H	$-CH_3$		$-CH_3$
(V)−181		$-CH_3$	H	H	H		$-CH_3$	$-CH_3$
(V)−182	$-CH_3$	$-CH_3$	H	H	H		$-CH_3$	$-CH_3$
(V)−183		$-CH_3$	H	H	H	$-CH_2N(CH_3)_2$	H	$-CH_3$
(V)−184		$-CH_3$	H	H	H	$-CH_2N(CH_3)_2$	$-CH_3$	$-CH_3$
(V)−185		$-CH_3$	H	H	H	$-CH_3$	$-CH_2N(CH_3)_2$	$-CH_3$
(V)−186	$-C_8H_{17}(n)$	$-CH_3$	H	H	H	H	$-C_4H_9(t)$	H
(V)−187	$-CH_3$	$-CH_3$	H	H	H	$-CH_3$	H	$-C_4H_9(t)$
(V)−188		$-CH_3$	H	H	H	$-CH_3$	$-OCH_3$	$-OCH_3$
(V)−189		$-CH_3$	H	H	H	$-CH_3$	H	$-C-CH_3$ | CH_3

[Table 7-(9)]

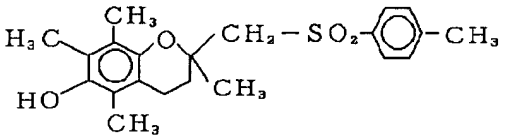
化合物No.	R_1	R_2	R_3	R_4	R_5	R_6	R_7	R_8
(V)−190		$-CH_3$	H	H	H	$-CH_3$	$-OCH_3$	$-CH_3$
(V)−191		$-OC_2H_5$	$-OCH_3$	H	H	H	H	H
(V)−192		$-OCH_3$	$-OC_2H_5$	H	H	H	H	H
(V)−193		H	$-OC_2H_5$	H	H	H	H	H
(V)−194	$-OC_2H_5$	H	H	$-CH_3$	$-CH_3$	$-CH_2OC_2H_5$	$-CH_3$	$-CH_3$
(V)−195	$-CH_3$	$-CH_3$	H	H	H	$-C_2H_5$	H	H
(V)−196	$-C_3H_7$	$-CH_3$	H	H	H		$-CH_3$	$-CH_3$
(V)−197		$-CH_3$	H	H	H	$-CH_3$	$-CH_3$	$-C_2H_5$
(V)−198		H	H	H	H	$-CH_3$	$-CH_3$	$-CH_3$
(V)−199		H	H	H	H	$-CH_3$	$-CH_3$	$-CH_3$
(V)−200	$-(CH_2)_{12}CH_3$	H	$-CH_3$	H	H	H	H	H
(V)−201	$-(CH_2)_{12}CH_3$	H	$-CH_3$	H	H	H	H	H
(V)−202	$-(CH_2)_{12}CH_3$	H	$-CH_3$	H	H	H	H	H
(V)−203	$-(CH_2)_{12}CH_3$	H	H	H	H	$-CH_3$	$-CH_3$	$-CH_3$
(V)−204		H	$-CH_3$	H	H	H	H	H
(V)−205		$-CH_3$	H	H	H	$-CH_3$	$-CH_3$	$-CH_3$
(V)−206	$-CH_3$	$-CH_3$		H	H	$-CH_3$	$-CH_3$	$-CH_3$
(V)−207	$-CH_3$	$-CH_3$		H	H	$-CH_3$	$-CH_3$	$-CH_3$
(V)−208	$-CH_3$	$-CH_3$		H	H	H	H	H
(V)−209	$-CH_3$	$-CH_3$		H	H	$-CH_3$	$-CH_3$	$-CH_3$

[Table 7-(10)]

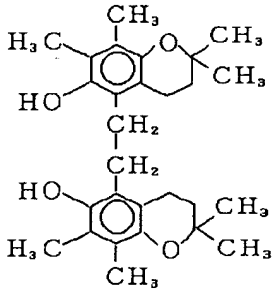
(V) −210



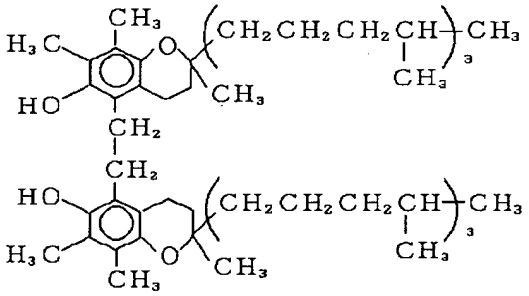
(V) −211



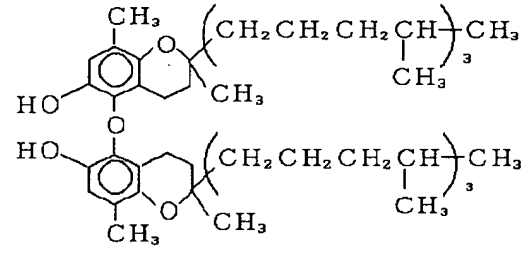
(V) −212



(V) −213

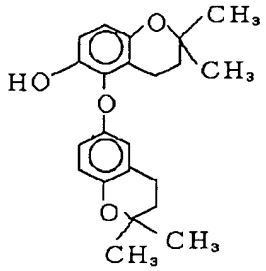


(V) −214

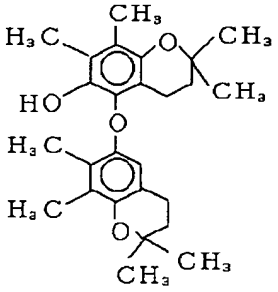


[Table 7-(11)]

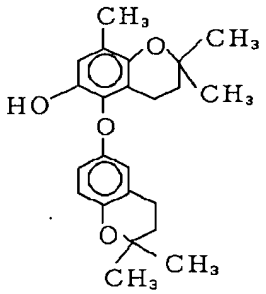
(V) −215



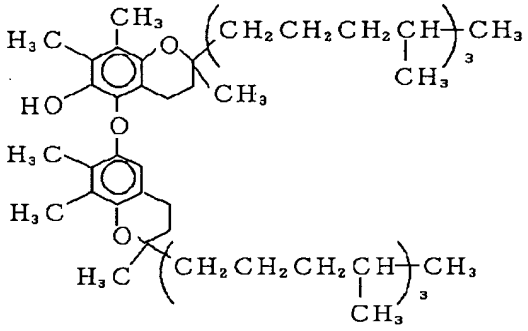
(V) −216



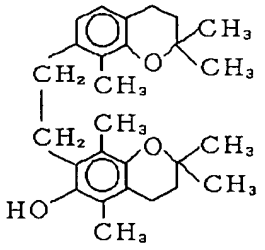
(V) −217



(V) −218

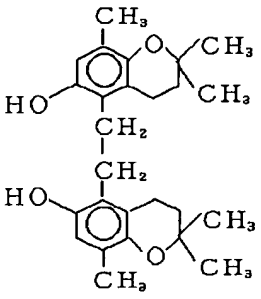


(V) −219

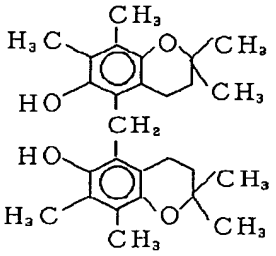


[Table 7-(12)]

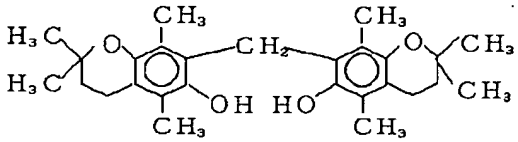
(V) −220



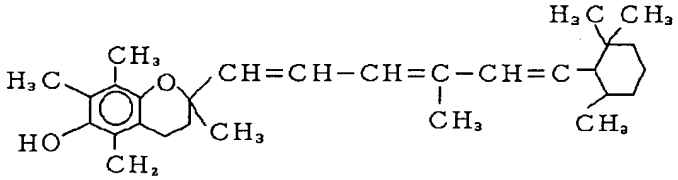
(V) −221



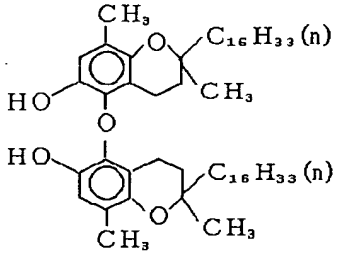
(V) −222



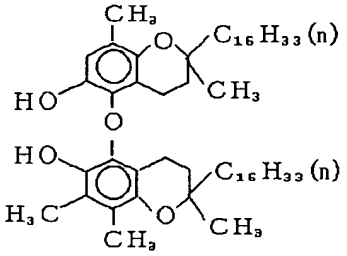
(V) −223



(V) −224

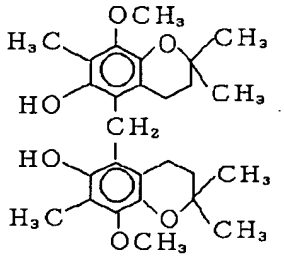


(V) −225

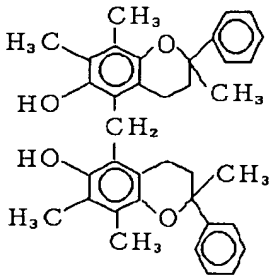


[Table 7-(13)]

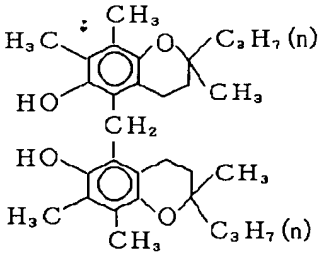
(V) −226



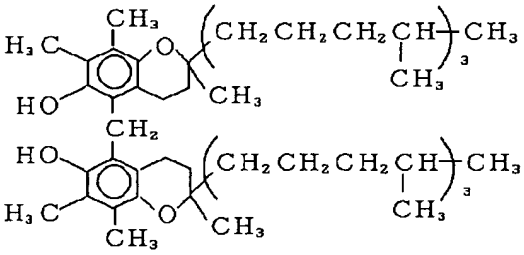
(V) −227



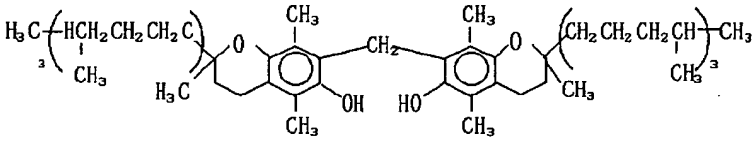
(V) −228



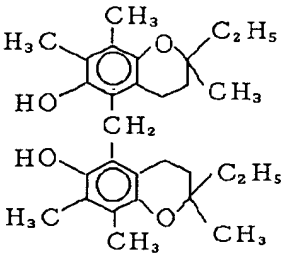
(V) −229



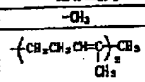
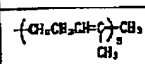
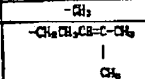
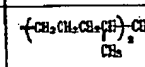
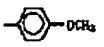
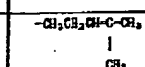
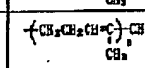
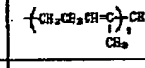
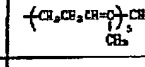
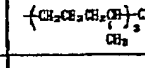
(V) −230



(V) −231

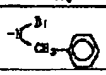
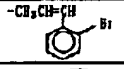
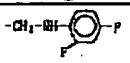
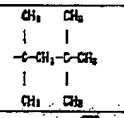
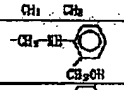
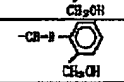
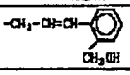
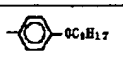
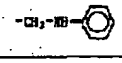
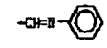
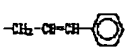
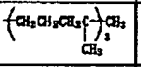


[The example of the compound of a general formula (VI)]
[Table 8-(1)]

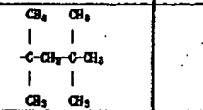
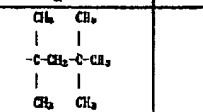
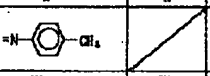
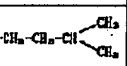
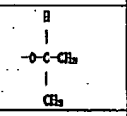
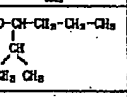
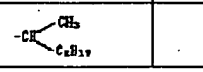
化合物No.	R_3	R_4	R_5	R_6	R_7	R_8	R_9
(VI)-1	$-OCH_3$	$-CH_3$		H	$-OCH_3$	$-CH_3$	H
(VI)-2	$-CH(OCH_3)_2$	$-CH_3$		H	$-CH_3$	$-CH_3$	$-CH_3$
(VI)-3	$-CH(OCH_3)_2$	H	H	H	$-CH_3$	$-CH_3$	$-CH_3$
(VI)-4	$-CH_3$	$-CH_3$	H	H	H	H	H
(VI)-5		$-CH_3$	H	H	H	H	H
(VI)-6		$-CH_3$	H	H	H	$-CH_3$	H
(VI)-7	$-CH_3$	$-CH_3$	H	H	H	$-OCH_3$	H
(VI)-8	$-CH_3$	$-CH_3$	H	H	$-CH_2OCH_3$	$-CH_3$	$-CH_3$
(VI)-9		$-CH_3$	H	H	H	H	H
(VI)-10	$-CH_3$	$-CH_3$	H	H	$-CH_3$	$-CH_3$	$-CH_3$
(VI)-11	H	H		H	H	H	H
(VI)-12		$-CH_3$	H	H	$-CH_3$	$-CH_3$	$-CH_3$
(VI)-13	H	H	H	H	$-CH_3$	$-CH_3$	$-CH_3$
(VI)-14	H	H	H		H	$-OCH_3$	$-OCH_3$
(VI)-15		H	H	H	H	$-OCH_3$	H
(VI)-16	$-CH_3$	$-CH_3$	H	H	$-OCH_3$	H	$-CH_3$
(VI)-17		H	H	H	H	$-OCH_3$	H
(VI)-18	H	H	H		H	$-OCH_3$	H
(VI)-19		$-CH_3$	H	H	$-CH_3$	$-CH_3$	$-CH_3$
(VI)-20		$-CH_3$	H	H	$-CH_3$	$-CH_3$	$-CH_3$
(VI)-21	$-CH_3$	$-CH_3$	H	H	H	H	$-CH_3$
(VI)-22		$-CH_3$	H	H	$-CH_3$	H	$-CH_3$
(VI)-23		$-CH_3$	H	H	$-CH_3$	$-OCH_3$	$-OCH_3$
(VI)-24		$-CH_3$	H	H	$-CH_3$	$-OCH_3$	$-OCH_3$
(VI)-25	H	H	H		H	$-OCH_3$	$-OCH_3$

[Table 8-(2)]

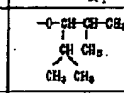
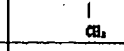
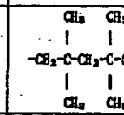
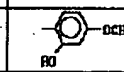
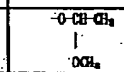
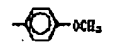
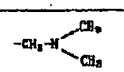
[The example of the compound of a general formula (VII)]
[Table 9-(1)]

化合物No.	R_1	R_2	R_3	R_4	R_5	R_6	R_7
(VII)-1	=NH			$-CH_3$	H	H	H
(VII)-2	H	H	H	H	H		H
(VII)-3	H	H	H	H	H		H
(VII)-4	H	H	H	H	H	H	H
(VII)-5	$-CH_3$	$-CH_3$	H	H	H	H	H
(VII)-6		H	$-CH_3$	$-CH_3$	H	H	H
(VII)-7		H	$-CH_3$	$-CH_3$	H		H
(VII)-8	H	H	H	H	H		H
(VII)-9	H	H	H	H	H		H
(VII)-10	H	H	H	H	H		H
(VII)-11		H	H	H	H	H	H
(VII)-12	=NH			H	$-CH_3$	$-CH_2$	$-CH_3$
(VII)-13	$-CH_3$	$-CH_3$	H	H	$-CH_3$	$-CH_3$	$-CH_3$
(VII)-14	H	H		H	H	H	H
(VII)-15	H	H	H	H	H		H
(VII)-16	H	H	H	H	H		H
(VII)-17	H	H	H	H	H		H
(VII)-18	$-CH_3$	$-CH_3$	H	H	H	$-CH_3$	$-CH_3$
(VII)-19	$-CH_3$	H	H	H	$-CH_3$	$-CH_3$	$-CH_3$
(VII)-20		$-CH_3$	H	H	$-CH_3$	$-CH_3$	$-CH_3$
(VII)-21	H	H	H	H	$-CH_3$	$-CH_3$	$-CH_3$
(VII)-22	=NH		$-CH_3$		H	$-C_3H_7(n)$	H
(VII)-23	$-OC_2H_5$	$-OC_2H_5$	$-Br$	H	H	$-CH_3$	$-CH_3$

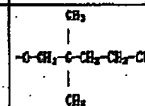
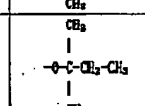
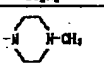
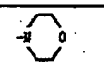
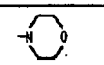
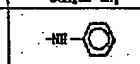
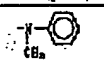
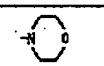
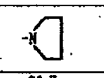
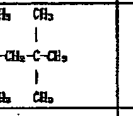
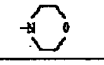
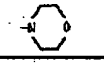
[Table 9-(2)]

化合物No.	R_1	R_2	R_3	R_4	R_5	R_6	R_7
(VII)-24		H	$-C_4H_9$ (n)	$-C_2H_5$	H	$-C_4H_9$ (n)	H
(VII)-25		H	$-C_4H_9$ (n)	$-C_2H_5$	H		H
(VII)-26		H	$-C_4H_9$ (n)	$-C_4H_9$ (n)	H	$-C_4H_9$ (n)	H
(VII)-27	$-OC_2H_5$	$-OC_2H_5$	H	H	H	H	H
(VII)-28	$-OC_2H_5$	$-OC_2H_5$	H	H	H	$-CH_3$	$-CH_3$
(VII)-29	$-CH_3$	H	H	H	$-CH_3$	H	H
(VII)-30	$-CH_3$	H	H	H	H	$-CH_3$	H
(VII)-31	H	H	$-CH_3$	$-CH_3$	H	H	H
(VII)-32		H	$-CH_3$	$-CH_3$	H		H
(VII)-33		H	$-CH_3$	H	H	$-OCH_3$	H
(VII)-34	H	H	H	H	H	$-CH_3$	H
(VII)-35					H	H	H
(VII)-36	$-CH_3$	$-CH_3$	H	H	H	H	$-C_4H_9$
(VII)-37		H	$-CH_3$	$-CH_3$	H	$-C_4H_9$ (t)	H
(VII)-38		H	$-CH_3$	$-CH_3$	H	$-C_4H_9$ (t)	H
(VII)-39	$-OC_8H_{17}$	H	$-CH_3$	$-CH_3$	H	$-C_4H_9$ (t)	H
(VII)-40		H	$-CH_3$	$-CH_3$	$-OC_2H_5$	H	$-C_2H_5$ (t)
(VII)-41	$-OC_2H_5$	H	$-CH_3$	$-CH_3$	H	H	H
(VII)-42			$-C_2H_5$	H	H	H	H
(VII)-43		H	$-CH_3$	$-CH_3$	H	H	H
(VII)-44		H	$-CH_3$	$-CH_3$	H	H	H
(VII)-45		H	$-CH_3$	$-CH_3$	H	H	H
(VII)-46		H	$-CH_3$	$-CH_3$	H		H

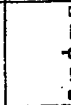
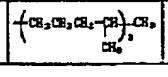
[Table 9-(3)]

化合物No.	R_1	R_2	R_3	R_4	R_5	R_6	R_7
(VII)-47		H	$-CH_3$	$-CH_3$	H	H	H
(VII)-48		H	$-CH_3$	$-CH_3$	H	H	H
(VII)-49		H	$-CH_3$	$-CH_3$	H	H	H
(VII)-50		H	$-CH_3$	$-CH_3$	H	H	H
(VII)-51		H	$-CH_3$	$-CH_3$	H	H	H
(VII)-52	$-O-CH=CH-CH_3$	H	$-CH_3$	$-CH_3$	H	H	H
(VII)-53	$-O-CH_2CH_2CH_3$	H	$-CH_3$	$-CH_3$	H	H	H
(VII)-54		H	$-CH_3$	$-CH_3$	H	H	H
(VII)-55		H	$-CH_3$	$-CH_3$	H	H	H
(VII)-56			H	H	H	H	H
(VII)-57		H	$-CH_3$	H	H	$-OCH_3$	H
(VII)-58	$-OCH_3$	H	$-CH_3$	$-CH_3$	H	H	H
(VII)-59		H	$-CH_3$	$-CH_3$	H	$-OCH_3$	H
(VII)-60		H	$-CH_3$	$-CH_3$	H	H	H
(VII)-61	$-CH_3$	H		H	H	$-OCH_3$	H
(VII)-62		H	H	H	H	H	H
(VII)-63		H	$-CH_3$	$-CH_3$	H	$-CH_3$	$-CH_3$
(VII)-64		H	$-CH_3$	$-CH_3$	H	$-CH_3$	H
(VII)-65		H	$-CH_3$	$-CH_3$	H	H	H
(VII)-66	$-CH_3$	$-CH_3$		H	H	H	H

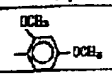
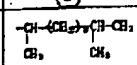
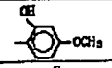
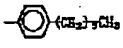
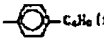
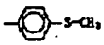
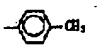
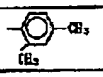
[Table 9-(4)]

化合物No.	R_1	R_2	R_3	R_4	R_5	R_6	R_7
(VII)-67		H	$-CH_3$	$-CH_3$	H	$-C_4H_9$(t)	H
(VII)-68		H	$-CH_3$	$-CH_3$	H	H	H
(VII)-69		H	$-CH_3$	$-CH_3$	H	H	H
(VII)-70	$-OC_2H_5$	$-CH_3$	$-CH_3$	H	H	H	H
(VII)-71	$-OC_2H_5$	H	$-CH_3$	$-CH_3$	H	$-CH_3$	$-CH_3$
(VII)-72		H	$-C_2H_5$	H	H	H	H
(VII)-73		H	$-C_2H_5$	H	H	H	H
(VII)-74		H	$-C_2H_5$	H	H	H	H
(VII)-75		H		H	H	H	H
(VII)-76	$-OCH_2CH=CH_2$	H	$-CH_3$	$-CH_3$	H	H	H
(VII)-77		H	$-CH_3$	$-CH_3$	$-CH_3$	$-OC_4H_9$(t)	H
(VII)-78	$-OC_4C_9$(t)	H	$-CH_3$	$-CH_3$	H	H	H
(VII)-79	$-CH_3$	$-CH_3$	H	H	H	$-OC_4H_9$(t)	H
(VII)-80	$-CH_3$	$-CH_3$	H	H	H	H	$-C_4H_9$
(VII)-81		H	$-CH_3$	$-CH_3$	H	$-OC_4H_9$(t)	H
(VII)-82		H	$-CH_3$	$-CH_3$	H	$-OC_4H_9$(t)	H
(VII)-83		H	$-CH_3$	$-CH_3$	H	$-OC_4H_9$(t)	H
(VII)-84	$-OC_2H_5$	H	$-CH_3$	$-CH_3$	H	$-OC_4H_9$(t)	H
(VII)-85	$-OC_2H_5$	H	$-CH_3$	$-CH_3$	H	H	$-C_4H_9$
(VII)-86	$-N(CH_3)_2$	H	$-CH_3$	$-CH_3$	H	H	H
(VII)-87		H	$-CH_3$	$-CH_3$	H		H
(VII)-88		H	$-CH_3$	$-CH_3$	H		H
(VII)-89		H	$-CH_3$	$-CH_3$	H	H	

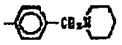
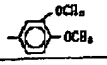
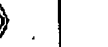
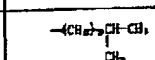
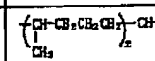
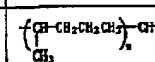
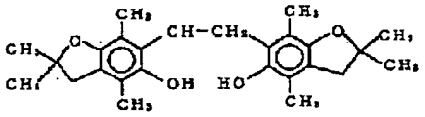
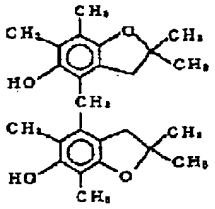
[Table 9-(5)]

化合物No.	R_3	R_4	R_5	R_6	R_7	R_8	R_9
(VII)-90		H	$-CH_3$	$-CH_3$	H	H	H
(VII)-91	$-OC_8H_7$(iso)	H	$-CH_3$	$-CH_3$	H	H	H
(VII)-92		H	$-CH_3$	$-CH_3$	H	$-C_8H_7$(iso)	H
(VII)-93		H	$-OC_8H_7$(iso)	H	H	H	H
(VII)-94		H	H	H	H	$-CH_3$	$-CH_3$
(VII)-95		H	$-CH_3$	H	H	H	
(VII)-96	$-CH_3$	$-CH_3$	H	H	$-CH_3$	H	$-CH_3$
(VII)-97	H	H	$-CH_3$	$-CH_3$	H	$-CH_3$	$-CH_3$
(VII)-98	$-N(CH_3)_2$	H	$-CH_3$	$-CH_3$	H	H	H
(VII)-99	$-OC_2H_5$	H	$-CH_3$	$-CH_3$	H	$-CH_3$	$-CH_3$
(VII)-100	$-OC_2H_5$	H	$-CH_3$	$-CH_3$	H	$-CH_3$	H
(VII)-101	$-OC_2H_5$	H	$-CH_3$	$-CH_3$	H	H	$-CH_3$
(VII)-102	$-CH_3$	H	H	H	H	H	H
(VII)-103	H	H	H	H	H	$-CH_3$	H
(VII)-104	$-CH_3$	$-CH_3$	$-CH_3$	H	H	H	H
(VII)-105	$-CH_3$	H	H	H	$-CH_3$	H	$-CH_3$
(VII)-106	$-C_2H_5$	H	H	H	$-CH_3$	$-CH_3$	$-CH_3$
(VII)-107	$-CH_3$	H	$-CH_3$	H	$-CH_3$	$-CH_3$	$-CH_3$
(VII)-108	$-CH_3$	H	$-C_2H_5$	H	H	H	H
(VII)-109		H	H	H	$-CH_3$	$-CH_3$	$-CH_3$
(VII)-110	$-(CH_2)_7CH_3$	H	$-CH_3$	H	H	H	H
(VII)-111	$-CH_3$	$-CH_3$	$-CH_3$	H	H	$-C_8H_7$(n)	H
(VII)-112	$-C_8H_7$	H	H	H	$-CH_3$	$-CH_3$	$-CH_3$
(VII)-113		H	H	H	$-CH_3$	$-CH_3$	$-CH_3$
(VII)-114	$-(CH_2)_{13}CH_3$	H	$-CH_3$	H	H	H	H
(VII)-115	$-(CH_2)_{13}CH_3$	H	$-CH_3$	H	H	H	H
(VII)-116	$-(CH_2)_{13}CH_3$	H	H	H	$-CH_3$	$-CH_3$	$-CH_3$
(VII)-117	H	H	$-CH_3$	H	H	$-CH_3$	H
(VII)-118		H	$-CH_3$	H	H	H	H
(VII)-119		$-CH_3$	H	H	$-CH_3$	$-CH_3$	$-CH_3$

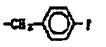
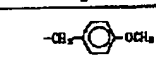
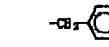
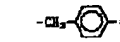
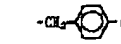
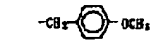
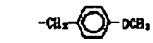
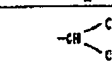
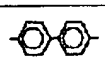
[Table 9-(6)]

化合物No.	R_1	R_2	R_3	R_4	R_5	R_6	R_7
(VII)-120		H	H	H	H	$-OCH_3$	H
(VII)-121		$-CH_3$	H	H	$-CH_3$	$-CH_3$	$-CH_3$
(VII)-122		H	H	H	H	H	H
(VII)-123		H	H	H	H	H	H
(VII)-124	H	H	$-CH_3$	H	$-OCH_3$	H	H
(VII)-125		H	$-CH_3$	H	H	H	H
(VII)-126		H	H	H	$-CH_3$	$-CH_3$	$-CH_3$
(VII)-127	$-CH_3$	$-CH_3$		H	$-CH_3$	$-CH_3$	$-CH_3$
(VII)-128		$-CH_3$	H	H	H	$-OCH_3$	H
(VII)-129	$-CH_3$	$-CH_3$		H	$-CH_3$	$-CH_3$	$-CH_3$
(VII)-130	$-CH_3$	$-CH_3$		H	$-CH_3$	$-CH_3$	$-CH_3$
(VII)-131	$-CH_3$	$-CH_3$		H	$-CH_3$	$-CH_3$	$-CH_3$
(VII)-132		H	$-CH_3$	H	$-CH_3$	$-OCH_3$	H
(VII)-133		H	H	H	$-CH_3$	$-OCH_3$	H
(VII)-134	$-CH_3$	$-CH_3$		H	$-CH_3$	$-CH_3$	$-CH_3$
(VII)-135	$-CH_3$	$-CH_3$		H	$-CH_3$	$-CH_3$	$-CH_3$
(VII)-136	$-CH_3$	$-CH_3$		H	$-CH_3$	$-CH_3$	$-CH_3$
(VII)-137	$-CH_3$	$-CH_3$		H	H	H	H
(VII)-138	$-CH_3$	$-CH_3$		H	$-CH_3$	$-CH_3$	$-CH_3$
(VII)-139	$-CH_3$	$-CH_3$		H	$-CH_3$	$-CH_3$	$-CH_3$

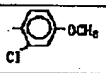
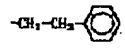
[Table 9-(7)]

化合物No.	R_1	R_2	R_3	R_4	R_5	R_6	R_7
(VIII)-140	$-CH_3$	$-CH_3$		H	$-CH_3$	$-CH_3$	$-CH_3$
(VIII)-141		H	$-CH_3$	H	H		H
(VIII)-142	$-CH_3$	$-CH_3$		H	$-CH_3$	$-CH_3$	$-CH_3$
(VIII)-143		$-CH_3$	H	H	$-CH_3$	$-CH_3$	$-CH_3$
(VIII)-144		$-CH_3$	H	H	$-CH_3$	$-CH_3$	$-CH_3$
(VIII)-145		$-CH_3$	H	H	$-CH_3$	$-CH_3$	$-CH_3$
(VIII)-146							
(VIII)-147							

[The example of the compound of a general formula (VIII)]
[Table 10-(1)]

化合物No.	R_1	R_2	R_3	R_4	R_5
(VII)－1		H	$-Br$	$-CH_2-N(CH_3)_2$	H
(VII)－2		$-CH_3$	$-C_3H_7(n)$	H	$-Cl$
(VII)－3	H	H	H	H	H
(VII)－4		H	H	$-OCH_3$	H
(VII)－5	H	H	H	$-CH_3$	$-CH_3$
(VII)－6		H	$-CH_3$	$-CH_3$	H
(VII)－7	$-C_2H_5$	H	$-CH_3$	$-CH_3$	$-CH_3$
(VII)－8		$-CH_3$	$-C_3H_7(n)$	H	H
(VII)－9	$-C_6H_{13}(n)$	H	H	H	H
(VII)－10		H	H	$-OCH_3$	H
(VII)－11		H	H	H	H
(VII)－12		$-CH_3$	H	H	H
(VII)－13		$-CH_3$	$-C_3H_7(n)$	H	H
(VII)－14	$-CH_3$		H	$-OCH_3$	H
(VII)－15		$-CH_3$	H	H	H
(VII)－16		$-CH_3$	$-C_3H_7(n)$	H	H
(VII)－17	H	$-CH_3$	H	H	H
(VII)－18		H	H	H	H
(VII)－19	H	$-CH_3$	$-CH_2-CH=CH_2$	H	H
(VII)－20	H	$-CH_3$	$-C_3H_7(n)$	H	H
(VII)－21	$-CH_3$	$-CH_3$	$-CH_3$	$-CH_3$	$-CH_3$
(VII)－22	H		H	H	H
(VII)－23	$-CH_3$	H	$-CH_3$	$-CH_3$	$-CH_3$
(VII)－24		$-CH_3$	H	H	H
(VII)－25		$-CH_3$	H	H	H

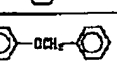
[Table 10-(2)]

化合物No.	R_1	R_2	R_3	R_4	R_5
(VII)－26	-Br		$-CH_2-N(CH_3)_2$	H	H
(VII)－27		$-CH_3$	H	H	H
(VII)－28		$-C_4H_9(n)$	H	H	H
(VII)－29		$-C_4H_9(n)$	H	H	H
(VII)－30		$-C_2H_5$	H	H	H
(VII)－31	$-CH_3$	$-CH_3$	H	H	H
(VII)－32		H	$-CH_2-N(CH_3)_2$	H	H
(VII)－33	H		$-CH_2-N(CH_3)_2$	H	H
(VII)－34			$-CH_2-N(CH_3)_2$	H	H
(VII)－35			H		H
(VII)－36		$-C_2H_5$	H	H	H
(VII)－37	$-C_2H_5$		H	H	H
(VII)－38	$-C_2H_5$		H	H	H
(VII)－39		$-C_2H_5$	H	H	H
(VII)－40		$-C_2H_5$	H	H	H
(VII)－41		$-C_2H_5$	H	H	H
(VII)－42		$-C_2H_5$	H	H	H
(VII)－43		$-CH_3$	H	H	H
(VII)－44		H	H	H	H
(VII)－45	$-CH_3$		H	H	H

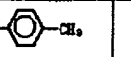
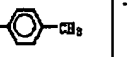
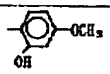
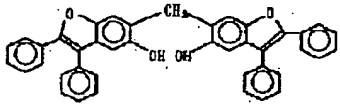
[Table 10-(3)]

化合物No.	R_1	R_2	R_3	R_4	R_5
(VII)-46		$-C_3H_7$ (n)	H	H	H
(VII)-47			H	$-OCH_3$	H
(VII)-48		$-CH_3$	H	$-OCH_3$	H
(VII)-49			H	$-OCH_3$	H
(VII)-50		H	H	H	H
(VII)-51			H		H
(VII)-52			H		H
(VII)-53		$-CH_3$	H	H	H
(VII)-54		$-CH_3$	H	H	H
(VII)-55		$-C_3H_7$	H	H	H
(VII)-56	$-CH_3$	H	H	H	H
(VII)-57			H	H	H
(VII)-58		$-CH_3$	H	H	H
(VII)-59		$-CH_3$	H	H	H
(VII)-60		$-CH_3$	H	H	H
(VII)-61	$-CH_3$		H	H	H
(VII)-62		$-CH_3$	H	H	H
(VII)-63	$-CH_2-CH_2-$ 	$-CH_3$	H	H	H
(VII)-64	$-CH_3$		H	H	H
(VII)-65		$-CH_3$	H	H	H

[Table 10-(4)]

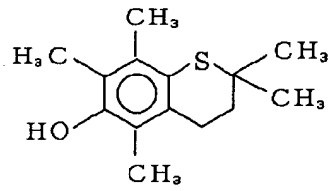
化合物No.	R_1	R_2	R_3	R_4	R_5
(VIII)-66		$-CH_3$	H	H	H
(VIII)-67		$-CH_3$	H	H	H
(VIII)-68	$-CH=CH-CH_2-CH_2-CH_2-CH_3$	H	H	H	H
(VIII)-69		H	H	H	H
(VIII)-70			H		H
(VIII)-71		$-C_3H_7(n)$	H	H	H
(VIII)-72	$-C_3H_7(n)$		H	H	H
(VIII)-73			H	H	H
(VIII)-74		$-C_3H_7(i)$	H	H	H
(VIII)-75	$-C_3H_7(n)$		H	H	H
(VIII)-76		$-C_{14}H_{29}(n)$	H	H	H
(VIII)-77		$-C_3H_7(n)$	H	H	H
(VIII)-78	H	$-CH_2CH_2NH_2(n)$	H	H	H
(VIII)-79			$-CH_2-N(CH_3)_2$	H	H
(VIII)-80	H	$-CH_3$	H	$-CH_3$	H
(VIII)-81			H	H	H
(VIII)-82				H	H
(VIII)-83				H	H
(VIII)-84				H	H
(VIII)-85	$-C_2H_5$	H	H	H	H
(VIII)-86	$-CH_3$	$-CH_3$	H	$-C_2H_5$	H
(VIII)-87	$-C(=CH_2)-CH_3$	H	H	H	H

[Table 10-(5)]

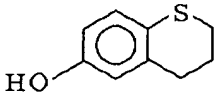
化合物No.	R_1	R_2	R_3	R_4	R_5
(VII)－88				H	H
(VII)－89				H	H
(VII)－90				H	H
(VII)－91	$-CH_3$	H	H	$-CH_3$	H
(VII)－92		$-C_4H_9(n)$	H	H	H
(VII)－93	$-C_2H_5$	$-CH_3$	H	H	H
(VII)－94	$-C_3H_7(n)$	$-C_2H_5$	H	H	H
(VII)－95	$-C_5H_{11}(n)$	$-CH_3$	H	H	H
(VII)－96			$-CH_3$	$-CH_3$	$-CH_3$
(VII)－97	H	$-CH_3$	$-OCH_3$	H	H
(VII)－98		H	H	H	H
(VII)－99		H	$-CH_3$	$-CH_3$	H
(VII)－100				H	H

[The example of the compound of a general formula (IX)]
[Table 11-(1)]

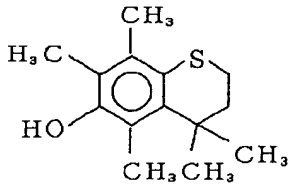
(Ⅸ) − 1



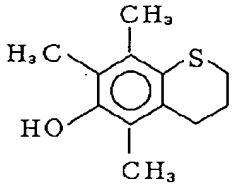
(Ⅸ) − 2



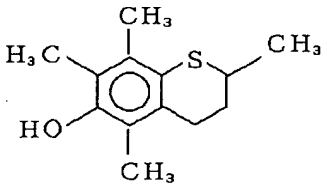
(Ⅸ) − 3



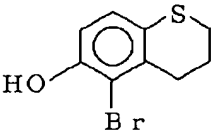
(Ⅸ) − 4



(Ⅸ) − 5

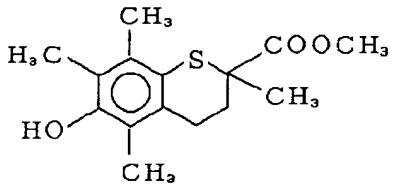


(Ⅸ) − 6

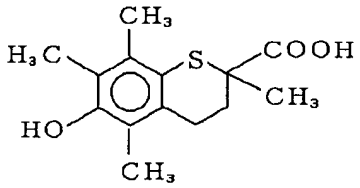


[Table 11-(2)]

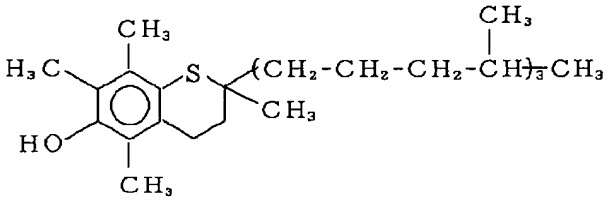
(IX) -7



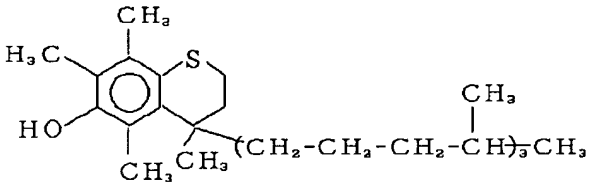
(IX) -8



(IX) -9



(IX) -10



[0037] Moreover, in case the eutectic complex sensitization layer 15 is formed, leveling agents, such as silicone oil, may be added in coating liquid. About 0 - 1 % of the weight is suitable for the amount used to an electric insulation polymer. Furthermore, it faces forming this layer 15 and a binder may be used by the need.

[0038] As a binder ingredient here, polyethylene, polystyrene, polybutadiene, The polymer and copolymer of a styrene-butadiene copolymer, acrylic ester, or methacrylic ester, Polyester, a polyamide, an epoxy resin, urethane resin, silicone resin, an alkyd resin, cellulose system resin, Polly N-vinylcarbazole, and its derivative (for example, a carbazole frame -- chlorine --) What has substituents, such as halogens, such as a bromine, a methyl group, and an amino group, a polyvinyl pyrene, polyvinyl anthracene, and pyrene-formaldehyde condensation polymerization object and its derivative (for example, a pyrene frame -- halogens, such as a bromine, --) The thing and Polly gamma-carbazolyl ethyl-L-DARUTA mate who have substituents, such as a nitro group, styrol resin, chlorinated polyethylene, acetal resin, melamine resin, etc. are raised.

[0039] A plasticizer can be used together in this binding material. As a plasticizer, what is generally used as a plasticizer of resin can use dibutyl phthalate, dioctyl phthalate, etc. as it is. About 0 - 30 % of the weight is suitable for the amount used to resin binding material.

[0040] In addition, you may form so that it may face forming the eutectic complex sensitization layer 15 of this invention, and the approach (JP,56-80052,A) of drying coating liquid after

immersing the two coats approach (JP,56-40837,A) and the already prepared electric insulation polymer layer in a pyrylium system color may be used and it may differ in the concentration of the pyrylium system color in a layer 15 near a front face a conductive base side (JP,56-121042,A).

[0041] In this invention, as shown in drawing 2 , electrification nature and an adhesive property are improvable a conductive base and by forming the undercoating layer 14 between eutectic complex sensitization layers.

[0042] In this invention, as shown in drawing 2 , the undercoating layer 14 can be formed between a conductive base and the eutectic complex sensitization layer 15. Although the undercoating layer 14 generally uses resin as a principal component, considering applying a sensitization layer with a solvent on it, as for these resin, it is desirable that it is high resin of solvent resistance to a common organic solvent. As such resin, the hardening mold resin which forms a three-dimensional network, such as alcoholic fusibility resin, such as water soluble resin, such as polyvinyl alcohol, casein, and sodium polyacrylate, copolyamide, and methoxymethyl-ized nylon, polyurethane, melamine resin, phenol resin, alkyd-melamine resin, and an epoxy resin, is mentioned.

[0043] Moreover, the impalpable powder pigment of the metallic oxide which can be illustrated by titanium oxide, a silica, the alumina, the zirconium dioxide, the tin oxide, indium oxide, etc. for moire prevention, reduction of rest potential, etc. may be added to the undercoating layer 14.

[0044] it is possible to also make an undercoating layer contain an antioxidant in this invention -- and -- effective -- the content -- the resin 100 weight section -- receiving -- 0.01 - 20 weight section -- it is 0.1 - 10 weight section preferably. However, the antioxidant mentioned as an antioxidant in the top can be used.

[0045] These undercoating layers can be formed using a suitable solvent and a coating method like the above-mentioned. Furthermore, a silane coupling agent, a titanium coupling agent, a chromium coupling agent, etc. can also be used as an undercoating layer 14 of this invention.

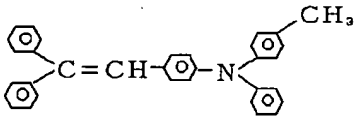
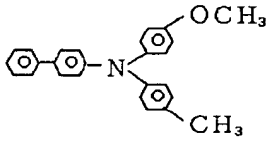
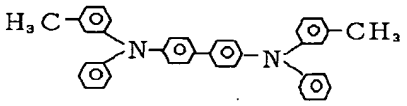
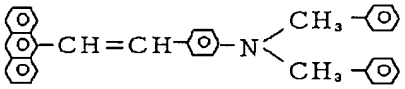
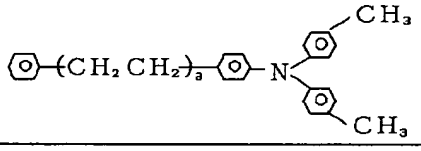
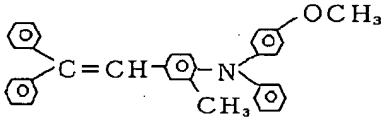
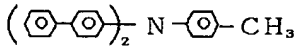
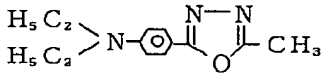
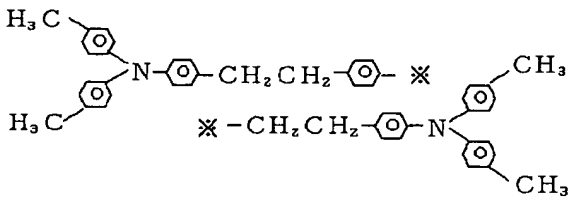
[0046] In addition, what prepared what formed aluminum 2O3 by anodic oxidation, the organic substance, such as the poly PARAKI silylene (parylene), and the inorganic substance of SiO, SnO2, TiO2, ITO, and CeO2 grade by the vacuum thin film creating method can be used for the undercoating layer 14 of this invention good. 0-5 micrometers is suitable for the thickness of the undercoating layer 14.

[0047] Moreover, in this invention, it is also possible to prepare a protective layer and an insulating layer on the eutectic complex sensitization layer 15.

[0048] As an ingredient which a protective layer is prepared for the purpose of the surface protection of a photo conductor, and is used for this, ABS plastics, ACS resin, an olefin - vinyl monomer copolymer, a chlorinated polyether, Allylic resin, phenol resin, PORIFUSE tar, a polyamide, polyamidoimide, Polyacrylate, the poly allyl compound sulfone, polybutylene, polybutylene terephthalate, A polycarbonate, polyether sulphone, polyethylene, polyethylene terephthalate, Resin, such as polyimide, acrylic resin, the poly methyl pentene, polypropylene, polyphenylene oxide, polysulfone, polystyrene, an AS resin, Butadiene Styrene, polyurethane, a polyvinyl chloride, a polyvinylidene chloride, and an epoxy resin, is mentioned. To a protective layer, what, in addition to this, distributed inorganic materials, such as titanium oxide, tin oxide, and potassium titanate, to fluororesin like polytetrafluoroethylene, silicone resin, and these resin in order to improve abrasion resistance can be added.

[0049] Although an antioxidant can be used for a protective layer 17, the addition is 0 - 20 weight section to the resin 100 weight section, and is 0.1 - 10 weight section preferably.

However, the antioxidant mentioned above as an antioxidant can be used.
[0050] The usual applying method is adopted as a method of forming a protective layer. In addition, about 0.5-10 micrometers is suitable for protection layer thickness.
[0051] Moreover, well-known ingredients, such as a-C, a-SiC, etc. which were formed by the vacuum thin film creating method above else, can also be used as a protective layer 21. It is also possible to prepare another interlayer (not shown) between a sensitization layer and a protective layer in this invention.
[0052] Generally binder resin is used also for the middle class as a principal component. As these resin, a polyamide, alcoholic fusibility Nylon, water-soluble polyvinyl butyral resin, a polyvinyl butyral, polyvinyl alcohol, etc. are mentioned.
[0053] Although an anti-oxidant can be used for the middle class, as the addition, it is 0 - 20 weight section to the binder resin 100 weight section, and is 0.1 - 5 weight section preferably. However, the antioxidant mentioned above can be used for an antioxidant.
[0054] As an application of this invention, the compound photo conductor for electrophotography as shown in drawing 5 (a) and drawing 5 (b) meets all together. A well-known ingredient (for example, JP,56-121044,A) can be used for the 2nd sensitization layer 12 and an interlayer 13, and the eutectic complex sensitization layer 15 mentioned above can be used for the 1st sensitization layer. Thus, with the application of a well-known process (for example, JP,56-121044,A), image formation can be carried out to the becoming complex for electrophotography.
[0055]
[Effect] Since the fall of electrification potential is controlled without spoiling high sensitivity by repetition use, the electrophotography photo conductor of this invention prevents the fall of image concentration in positive-positive development, and can prevent the dirt of the natural complexion section in negative-positive development. Moreover, since the photo conductor of this invention is excellent also in the resistance to environment in a copying machine etc. (reactant gas-proof nature), it is high durability and can also prevent generating of an abnormality image.
[0056]
[Example] Next, although an example is given, an example is for explaining this invention in detail, and this invention is not restrained by the example. In addition, all the sections are the weight sections among an example.
[0057] On the polyester film which has an example 1 - 9aluminum conductive layer, the coating liquid of the following presentation was applied, it dried, the eutectic complex sensitization layer of 18 micrometers of thickness was formed, and the electrophotography photo conductor of this invention was obtained.
4-(4-dimethylamino phenyl)- 2 and 6 - diphenyl pyrylium perchlorate The three sections
Polycarbonate The 28 sections (Teijin Formation bread-making light L-1225)
Methylene chloride The 650 sections Electron hole transportability matter shown in Table 12
Antioxidant shown in 22 section table 12 The 0.2 sections [0058] An antioxidant was not added in one to example of comparison 9 examples 1-9, and also [all] the electrophotography photo conductor of the examples 1-9 of a comparison was created on the same conditions.
[0059]
[Table 12]

	正孔輸送性物質	酸化防止剤 (化合物No)
実施例－1		(I) －4
実施例－2		(II) －3
実施例－3		(III) －20
実施例－4		(IV) －11
実施例－5		(V) －113
実施例－6		(VI) －3
実施例－7		(VII) －7
実施例－8		(VIII) －33
実施例－9		(IX) －5

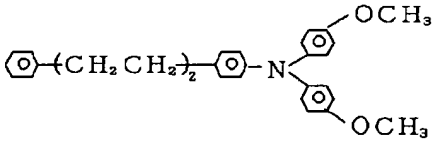
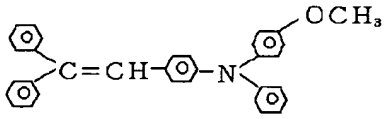
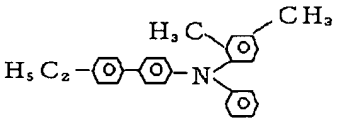
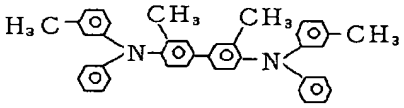
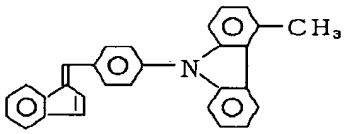
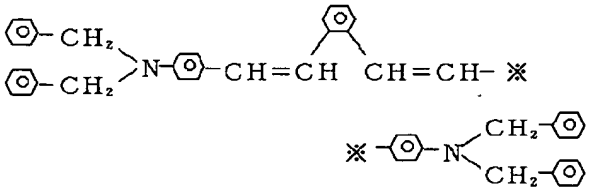
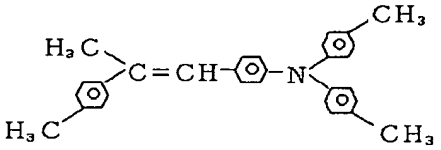
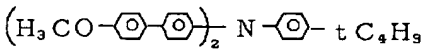
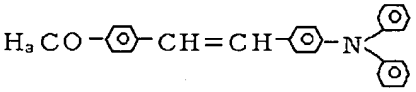
[0060] Next, the electrostatography testing device (Kawaguchi electrical-and-electric-equipment factory SP-428 mold) was used, and each photo conductor of examples 1-9 and the examples 1-9 of a comparison was evaluated as follows.

[0061] First, corona electrical charging was performed for 20 seconds in -5.2kV discharge ****, subsequently the dark decay was carried out for 10 seconds, and the tungsten light of after that 8lux was irradiated. Light exposure E1/2 (lux-sec) were measured. [required for measuring the surface potential V30 (V) the surface potential V1 of an electrification initiation 1 second back / at this time / and 20 seconds after (V), V20 (V), and 10 seconds after a dark decay, and making half potential carry out optical attenuation of V30] In addition, the rate of a dark decay (D. D) is defined by the degree type.
D. After performing D=V30/V20, and also electrification and exposure of the above-mentioned conditions to coincidence for 30 minutes and making it get fatigued, the same measurement as the above was performed again. Although the test result was shown in Table 13, all trials were performed under ordinary temperature normal relative humidity.
[Table 13]

	疲労前			疲労後		
	V_1 (V)	D. D	E1／2 (lux.sec)	V_1 (V)	D. D	E1／2 (lux.sec)
実施例1	-573	0.88	2.10	-590	0.84	2.02
比較例1	-571	0.87	2.08	-167	0.36	1.21
実施例2	-529	0.83	1.98	-530	0.81	1.90
比較例2	-531	0.84	2.01	-188	0.45	1.06
実施例3	-566	0.89	2.33	-568	0.84	2.30
比較例3	-561	0.88	2.30	-185	0.47	1.98
実施例4	-579	0.88	2.28	-593	0.83	2.22
比較例4	-580	0.85	2.26	-199	0.39	1.72
実施例5	-523	0.87	2.05	-511	0.81	2.00
比較例5	-523	0.86	2.02	-148	0.48	1.53
実施例6	-565	0.82	1.95	-555	0.79	1.94
比較例6	-561	0.83	1.96	-201	0.51	1.48
実施例7	-578	0.81	2.13	-569	0.77	2.11
比較例7	-581	0.80	2.11	-211	0.34	1.70
実施例8	-536	0.88	2.50	-565	0.83	2.37
比較例8	-533	0.90	2.43	-156	0.45	1.81
実施例9	-547	0.90	2.41	-561	0.86	2.33
実施例9	-544	0.87	2.37	-207	0.51	1.76

[0062] On aluminum plate with an example [10] - a 18 thickness of 0.2mm, each coating liquid of the following presentation was applied, it dried, and the undercoating layer with a thickness of 0.2 micrometers and the eutectic complex sensitization layer with a thickness of 21 micrometers were prepared one by one.
[Under-coating layer coating liquid]
Methanol The 80 sections n-butanol The 20 sections Alcoholic fusibility nylon The three sections (Amilan CM-8000, Toray Industries make)

Antioxidant shown in Table 14 The 0.06 sections [eutectic complex sensitization layer coating liquid]
4-(4-dimethylamino phenyl)-2, 6-JIFU ENIRUCHIA pyrylium hexafluoro phosphate The one section Polycarbonate (Lexan -141 made from GE) The 25 sections Electron hole transportability matter shown in Table 14 The same antioxidant as what was used for 20 section undercoating layer 0.3 section methylene chloride 400 section chloroform The 200 sections [0063] An antioxidant was not added in ten to example of comparison 18 examples 10-18, and also [all] the electrophotography photo conductor of the examples 10-18 of a comparison was created on the same conditions.
[Table 14]

	正孔輸送性物質	酸化防止剤（化合物No）
実施例－１０		（Ｉ）－９
実施例－１１		（II）－１４５
実施例－１２		（III）－３７
実施例－１３		（IV）－８
実施例－１４		（V）－１２
実施例－１５		（VI）－２４
実施例－１６		（VII）－１４６
実施例－１７		（VIII）－８
実施例－１８		（ＩＸ）－１

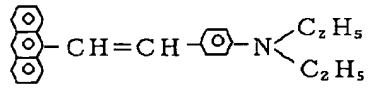
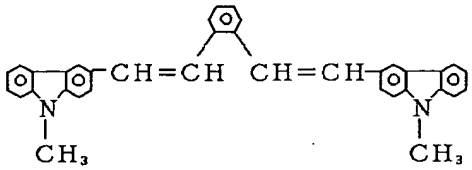
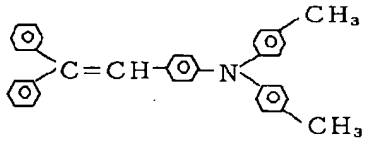
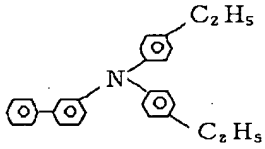
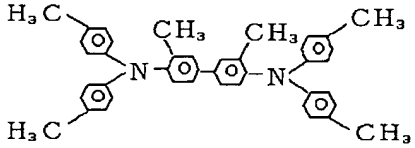
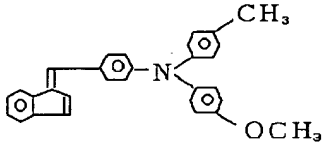
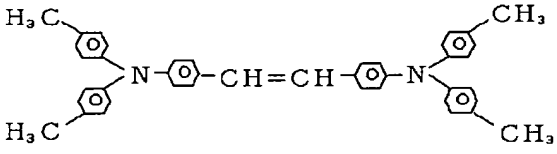
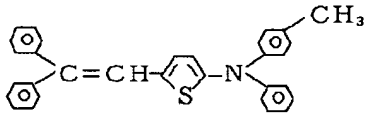
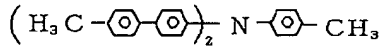
[0064] Next, the photo conductor of examples 2-18 and the examples 2-18 of a comparison was tired at 5 ppm of ozone levels, and 35 degrees C for five days by the ozone exposure test in a plane. It is the same test method (however, discharge **** could be +5.6kV) as an example 1

about the photo conductor this fatigue before and after fatigue, and V1 (V), D.D, and E1/2 (lux-sec) were measured. Measurement is performed by ordinary temperature normal relative humidity, and a result is shown in Table 15.
[Table 15]

	疲労前			疲労後		
	V_1 (V)	D. D	E1／2 (lux.sec)	V_1 (V)	D. D	E1／2 (lux.sec)
実施例10	536	0.89	1.20	565	0.82	1.21
比較例10	532	0.88	1.20	212	0.51	0.81
実施例11	571	0.87	1.50	599	0.80	1.44
比較例11	575	0.87	1.51	156	0.34	0.77
実施例12	548	0.90	1.63	566	0.86	1.58
比較例12	543	0.91	1.62	208	0.45	0.69
実施例13	526	0.82	1.38	530	0.80	1.35
比較例13	521	0.81	1.38	167	0.50	0.90
実施例14	565	0.89	1.41	568	0.82	1.40
比較例14	566	0.90	1.42	190	0.36	0.83
実施例15	579	0.88	1.60	597	0.83	1.51
比較例15	570	0.85	1.58	184	0.45	0.92
実施例16	521	0.86	1.52	510	0.81	1.45
比較例16	524	0.87	1.52	198	0.47	0.88
実施例17	564	0.82	1.38	556	0.76	1.37
比較例17	561	0.83	1.36	147	0.39	0.68
実施例18	577	0.80	1.27	569	0.77	1.25
実施例18	577	0.80	1.25	200	0.48	0.75

[0065] On aluminum cylinder with 19 to example 27 outer diameter of 40mm, each coating liquid of the following presentation was applied, it dried, and the undercoating layer with a thickness of 2 micrometers, the eutectic complex sensitization layer with a thickness of 20 micrometers, and the protective layer with a thickness of 2 micrometers were prepared one by one.
[Under-coating layer coating liquid]
TiO2 powder The 15 sections (the Ishihara Sangyo Kaisha, Ltd. make, TIPAQUE R-670)
Alcoholic fusibility nylon The seven sections (TOREJIN made from imperial chemistry industry)
Ethanol The 150 sections [eutectic complex sensitization layer coating liquid]
4-(4-dimethylamino phenyl)-2, 6-JIFU ENIRU thia pyrylium perchlorate The one section
Polycarbonate (Lexan -141 made from GE) The 20 sections Electron hole transportability matter shown in Table 16 Antioxidant shown in 20 section table 16 0.1 section methylene chloride The 650 sections [protective layer coating liquid]
Styrene-methacrylic-acid-N methylol methacrylamide resin 10% content tin oxide of 10 section

antimony oxide 30 section toluene 80 section n-butanol The same antioxidant as what was used for the 70 section above-mentioned sensitization layer The 0.2 sections [0066] An antioxidant was not added in 19 to example of comparison 27 examples 19-27, and also [all] the electrophotography photo conductor of the examples 19-27 of a comparison was created on the same conditions.
[Table 16]

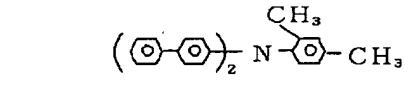
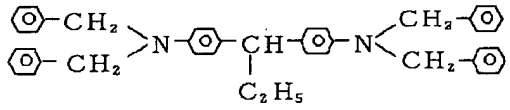
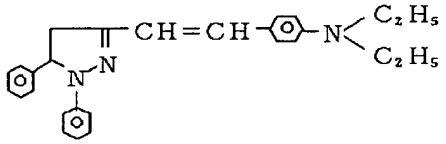
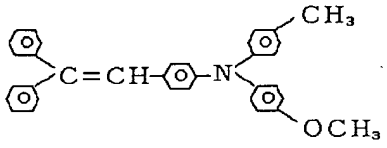
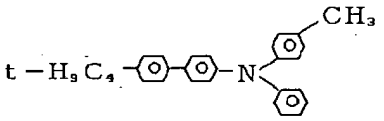
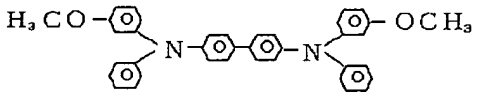
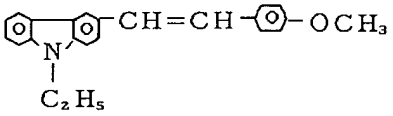
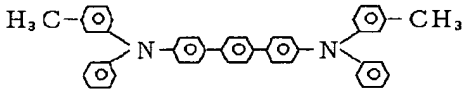
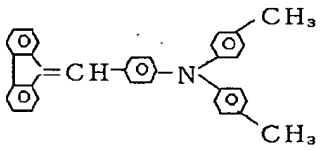
	正孔輸送性物質	酸化防止剤 (化合物No)
実施例－１９		(Ｉ)－１１
実施例－２０		(ＩＩ)－２
実施例－２１		(ＩＩＩ)－５
実施例－２２		(ＩＶ)－１２
実施例－２３		(Ｖ)－４３
実施例－２４		(ＶＩ)－３６
実施例－２５		(VII)－３３
実施例－２６		(VIII)－１００
実施例－２７		(ＩＸ)－３

[0067] Laser beam printer LP-1060SP-3 which changed the photo conductor of examples 19-27 and the examples 19-27 of a comparison into the next, and changed image exposure **** into helium neon laser carried, and the continuation copy of 5000 sheets was performed under 30

degrees C and conditions of 90% of humidity. The visual inspection estimated the black spot point (black Poti) of the non-image section at this time to five steps. However, the rank 5 was made as good and the rank 1 was made into the defect. The result of the 5000th sheet is shown in Table -17 with the 1st sheet.
[Table 17]

No.	実施例		比較例	
	1枚目	5000枚目	1枚目	5000枚目
19	5	5	5	3
20	5	5	4.5	2
21	5	5	5	3
22	5	5	5	4
23	5	5	5	3
24	5	5	4	2
25	5	5	5	3
26	5	5	5	2
27	5	5	5	3.5

[0068] On aluminum cylinder with 28 to example 36 outer diameter of 80mm, each coating liquid of the following presentation was applied, it dried, and the eutectic complex sensitization layer with a thickness of 17 micrometers and the protective layer with a thickness of 3 micrometers were prepared one by one.
[Eutectic complex sensitization layer coating liquid]
4-(4-dimethylamino phenyl)-2, 6-JIFU ENIRUSERENA pyrylium tetrafluoroborate The two sections Polycarbonate (Teijin Formation bread-making light L-1250) The 30 sections Electron hole transportability matter shown in Table 18 25 section methylene chloride 500 section chlorobenzene The 120 sections [the coating liquid for protective layers]
A styrene methyl methacrylate 2-hydroxyethyl methacrylate - truffe ROROE chill methacrylate copolymer 10 section conductivity titanium oxide 8 section toluene 100 section n-butanol Antioxidant shown in 50 section table 18 The 0.4 sections [0069] An antioxidant was not added in 28 to example of comparison 36 examples 28-36, and also [all] the electrophotography photo conductor of the examples 28-36 of a comparison was created on the same conditions.
[Table 18]

	正孔輸送性物質	酸化防止剤 (化合物No)
実施例－２８		(I) －５
実施例－２９		(II) －２７
実施例－３０		(III) －１
実施例－３１		(IV) －７
実施例－３２		(V) －３１
実施例－３３		(VI) －１５
実施例－３４		(VII) －４４
実施例－３５		(VIII) －２５
実施例－３６		(IX) －９

[0070] Each photo conductor of examples 28-36 and the examples 28-36 of a comparison was tired in a diacid-ized nitrogen exposure test in a plane for five days under NO2 concentration of 5 ppm, 250 degrees C, and conditions of 35% of humidity. Each photo conductor was carried in

RIKOPI FT6550 a fatigue front and after fatigue, and image concentration was measured with the Macbeth concentration meter. The result is shown in Table 19.
[Table 19]

No.	実施例		比較例	
	疲労前	疲労後	疲労前	疲労後
28	1.25	1.23	1.24	0.95
29	1.22	1.22	1.22	0.88
30	1.26	1.25	1.27	1.01
31	1.28	1.25	1.26	0.93
32	1.24	1.23	1.25	0.96
33	1.27	1.24	1.26	0.89
34	1.22	1.23	1.23	0.92
35	1.25	1.25	1.24	0.98
36	1.23	1.21	1.23	0.90

[0071]
[Effect of the Invention] Also by repeat use, the fall like ****** is controlled, and, it can prevent the fall of image concentration in positive-positive development, and can prevent the dirt of the natural complexion section in negative-positive development. [the photo conductor for electrophotography of this invention] Moreover, since the photo conductor of this invention is excellent also in the resistance to environment in a copying machine etc. (reactant gas-proof nature), it can prevent generating of an abnormality image in quantity endurance.

CLAIMS

[Claim 1] The electrophotography photo conductor characterized by making it come in the electrophotography photo conductor with which the sensitization layer which uses a pyrylium system color, an electric insulation polymer, and the electron hole transportability matter as a principal component was prepared on the conductive base to contain an antioxidant in this photo conductor.

[Translation done.]